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ABSTRACT

The monograph addresses the need in the United States for greater numbers of gerontology programs and education in the health care of, and human services for, an aging society. Statistical information is provided concerning the aging of America within the U.S. and the 15 Southern Regional Education Board (SREB) states as well as the aging of minority populations. Examined first is the impact on health and human services of an aging population. Next, the education and training of the human resources needed by the elderly is discussed, including the development of geriatric training centers, the future outlooks for gerontology education, the role of the specialist, new educational settings (for example, teaching hospital, nursing home, an ever-expanding array of community-based settings), and the need for the continuing education of health professionals in geriatrics. Recommendations are provided concerning state curriculums, programs, and supportive measures in developing improvements in geriatric care and professional training. Appendices provide tables showing projected changes in the population aged 65 and over in the SREB states, 1980-2010, and list the educational programs in gerontology offered by institutions of higher education in the SREB states, geriatric education centers in SREB states that are funded by the U.S. Departments of Health and Human Services and Veteran's Affairs, and graduate medical education programs in geriatrics that are located in SREB states. (GLR)

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CARING FOR AN AGING SOCIETY:

ISSUES AND STRATEGIES FOR GERONTOLOGY EDUCATION

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CARING FOR AN AGING SOCIETY: ISSUES AND STRATEGIES FOR GERONTOLOGY EDUCATION

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CARING FOR AN AGING SOCIETY: ISSUES AND STRATEGIES FOR GERONTOLOGY EDUCATION

Executive Summary

During the 1980s, the number of Americans age 65 or over grew by 24 percent, an average of more than 1,600 additional older adults every day. In the same period, the United States grew by just 10 percent overall. In the next two decades, the aging of America will continue, and the population of the South will age at an even faster rate than the United States as a whole. In 1980, the average age of residents in the 15 SREB states was just under 30; by 2010, it will rise to almost 40. There will be nearly 15 million Southerners age 65 or older in 2010, and more than two million of those will be 85 or over. Even states with little or no overall population growth will have thousands more older adults than they do today. The precise numbers will vary, but the growth of the 65 and over population is as certain as taxes, and it cannot help having a substantial effect on how tax dollars are spent.

Most of those age 65 and over are healthy and productive. Fewer than one of every 20 resides in a nursing home or similar facility, and more than half of those will remain there for less than six months. Still, health problems occur more often with advancing age, and treatment tends to become more complex, difficult, and costly. As older adults experience the loss of family and friends, depression and other types of mental health problems also tend to increase, as does the need for social support services. Unprecedented scientific advances in health care and lifestyle have been able to delay the aging process, but they cannot stop it completely. Older adults need more services than younger ones. Meeting those increased needs will place new and expanded demands on our systems for providing health and human services.

The primary goal of any system that addresses the needs of older adults should be to help individuals maintain as much functional independence as possible. To achieve this goal, resources will be needed to develop services such as home health care and support for family caregivers. Assisted housing will be needed as an alternative for those unable to remain in their homes but who do not require nursing home care. Financial obstacles to obtaining needed services of all types are a critical problem for the elderly. The inability of older adults to get the care they need in a timely fashion ultimately has greater social and economic costs than making services both readily available and easily accessible. Services also need to be responsive to racial, ethnic, and cultural differences among older adults, and to the differing problems of rural and urban areas.

Health and human services are provided by people, and people who understand the aging process and the problems associated with it will provide better, more satisfactory, and more cost effective care to older adults. Unfortunately, few of the people who provide such services today have had any formal education in gerontology. Yet, virtually all of them will find themselves serving a growing number of older clients, whether they are prepared to or not.

The first formal educational programs in gerontology in the United States were established less than 25 years ago, in 1967, under the auspices of the federal Administration on Aging. Both were at universities in SREB states (Florida and Texas). Today, more than 250 different programs in aging are in operation at 134 institutions across the region. These programs offer credentials ranging from vocational certificates to doctoral degrees. They involve disciplines as diverse as medicine, nursing, psychology, social work, divinity, and architecture. Regardless of their focus,

the best programs all reflect the fundamentally multidisciplinary nature of gerontology, and it is common for universities with multiple programs to have gerontology or geriatrics education centers to coordinate these diverse activities.

Gerontology education programs fall into three broad categories: 1) Those that offer degrees in gerontology; 2) those that offer certificates in gerontology to individuals with degrees in other fields; 3) those that offer degrees in other fields with minors or concentrations in gerontology. Though the relative merits of the different approaches continue to be debated, all three types of programs serve important purposes in preparing educators, administrators, planners, and practitioners who are qualified to address the problems of older adults. The Association for Gerontology in Higher Education recently published standards and guidelines for gerontology programs of all types. This should be very helpful in providing an experience-based framework for program development and evaluation.

The development of programs training specialists in gerontology and geriatrics is essential to building an effective system of services for the elderly, but it is not enough. In 1987, the National Institute on Aging told Congress that, "Under any conditions, requirements for personnel specifically prepared to serve older people will greatly exceed the current supply." Most of the services used by those 65 and over are and will continue to be provided not by specialists but by personnel who serve adults in all age groups. Thus, there is an equally pressing need for better coverage of gerontology in *general* educational programs in health and human services fields. We need physicians in the new specialty of geriatrics, but physicians in every other specialty that serves adult patients need to have a basic understanding of geriatrics as well. The same dichotomy holds true in virtually every other health and human services discipline. We need pharmacists who are alert to the potential for harmful drug interactions in older adults, and dietitians who understand the nutritional needs unique to aging, whether or not they specialize in serving older populations. Unfortunately, progress in this area has not been rapid as in the development of programs training gerontological specialists.

In addition, we need to recognize that even if we could provide an ideal grounding in gerontology to every current health professions student, the majority of practitioners for years to come would still be earlier graduates whose educations included no coursework on aging at all. In the short term, then, there may be no area of gerontology education more important than continuing education. Aggressive measures are needed to encourage practicing health and human services professionals to improve their knowledge and understanding of aging and health.

The need for gerontology education to respond to the rapidly growing numbers of older Americans is a complex problem that demands new and creative solutions. The impact of the burgeoning 65 and over population will reach every sector of the health and human services system. To respond effectively to this dramatic population shift, gerontology education must also reach into every level and every field whose members provide services to older adults.

Recommendations for States

- **The curriculum of every educational program that prepares health and human services professionals to serve adults should include both coursework and clinical experience in dealing with problems of aging. While such content is important at all levels, it is especially critical that gerontology be included in all entry-level curricula.**

- **Programs awarding degrees and other specialized credentials in gerontology and geriatrics should be encouraged and supported at all levels. Gerontology is a rapidly evolving field, and it can be expected that new, high quality programs will need to be developed and that existing programs may need to change as knowledge and understanding in this field change.**

- **States should provide support and incentives for practicing professionals and for faculty members in all health and human services fields to obtain supplementary education in gerontology and/or geriatrics. There is a particular need for affordable and accessible continuing education programs in gerontology and geriatrics for health professionals who are active in patient care.**

- **Special efforts are needed to make services more responsive to the problems of older members of ethnic and racial minority groups. Efforts should be renewed to improve recruitment and retention of underrepresented minorities in health and human services fields. At the same time, educational programs need to provide students of all racial and ethnic backgrounds with an understanding of the role of cultural differences in health and aging.**

- **States should encourage and provide financial support for organized research in areas related to gerontology and geriatrics, including research in the basic sciences, clinical health sciences, and social and behavioral sciences.**

By addressing these recommendations, states can take an active role in helping health and human services educators and practitioners respond to the needs of the growing elderly population.

CARING FOR AN AGING SOCIETY:

ISSUES AND STRATEGIES FOR GERONTOLOGY EDUCATION

More Americans are living longer than ever before. The unprecedented scientific advances in health care and improvements in life-style of the last half of the Twentieth Century ensure that trend will continue. The percentage of the population age 65 and over has already increased significantly, and the oldest members of the celebrated baby boom generation are still two decades away from retirement.

The aging of America has already begun to make new and difficult demands on our system of providing health care and human services. The required adjustments in attitudes and the way services are provided will not be easy in a society that has placed a premium on youth. They must be made, however, if current and future generations are to view their newfound longevity as a blessing rather than a curse.

THE NUMBERS

In 1980, 11.3 percent of Americans were age 65 or older (Table 1). It is projected that the 1990 Census will find that has risen to 12.6 percent. That seemingly small percentage change means there are approximately 6 million more Americans 65 or over than there were just 10 years ago. To attain that growth, the 65 and over population has had to grow at a rate two-and-a-half times that for the population as a whole--23 percent versus 10 percent. By 2010, those 65 or over will account for 14 percent of the population--almost one of every seven Americans.

TABLE 1

Projected Growth in Population Age 65 and Over
United States, 1980-2010 (in thousands)

	Total Population	65 and Over	Percent of Total Population	85 and Over	Percent of 65 and Over Population
1980	226,546	25,549	11.3%	2,240	8.8%
1990	249,891	31,560	12.6%	3,254	10.3%
2000	267,747	34,882	13.0%	4,622	13.3%
2010	282,055	39,362	14.0%	6,115	15.5%
Change 1980-2010	55,509	13,813	24.9%	3,875	28.1%
Percent Change 1980-2010	24.5%	54.1%	173.0%		

SOURCE: U.S. Department of Commerce, Bureau of the Census.

Even more dramatic is the growth of the population age 85 and over, sometimes called the "old old." By 2010 the 65 and over population will be more than 50 percent larger than it was in 1980. In the same period the 85 and over population will nearly triple. It is expected that the 1990 census will find that the number of Americans age 85 or over has grown by more than one million in the last decade alone.

The Region

In the 15 SREB states, these trends will not only be matched, they will be exceeded (Table 2). During the 1980s, the total population of the region grew at a rate half again as great as the average for the United States as a whole--16 percent versus 10 percent. In the same period, the region's 65 and over population grew by almost 2.5 million, or nearly 30 percent.

TABLE 2

Projected Growth in Population Age 65 and Over
SREB States, 1980-2010 (in thousands)

	Total Population	65 and Over	Percent of Total Population	85 and Over	Percent of 65 and Over Population
1980	74,140	8,351	11.3%	651	7.8%
1990	85,996	10,783	12.5%	1,050	9.7%
2000	95,552	12,634	13.2%	1,598	12.6%
2010	103,437	14,952	14.5%	2,194	14.7%
Change 1980-2010	29,297	6,601	22.5%	1,543	23.4%
Percent Change 1980-2010	39.5%	79.0%	237.0%		

SOURCE: U.S. Department of Commerce, Bureau of the Census.

By 2010, the number of Southerners age 65 or over will be 79 percent greater than in 1980, increasing from just over 8 million to nearly 15 million. Those 85 or over will account for almost one-fourth of that increase. In 1980, the SREB states had 650,000 residents age 85 or over; by 2010, there will be more than 2 million.

As a region, the SREB states will not differ dramatically from the nation in the distribution of growth of the aging population. In both the South and the United States, males age 65 or over will increase at a slightly faster rate than females (Tables 3 and 4). In 1980, females made up nearly 60 percent of those 65 or over; by 2010, the female majority will drop to about 56 percent.

Aging of Minority Populations

Black Americans will increase their share of the nation's 65 and over population between 1980 and 2010 from 8 percent to almost 10 percent (Table 3). In the South, the number of blacks age 65 and over will increase at a slightly slower rate and will actually lose about one point as a

TABLE 3

Projected Growth in Female and Black Population Age 65 and Over
United States, 1980-2010 (in thousands)

	Total Population 65 and Over	Female 65 and Over	Percent Female	Black 65 and Over	Percent Black
1980	25,549	15,246	59.7%	2,092	8.2%
1990	31,560	18,706	59.3%	2,612	8.3%
2000	34,882	20,608	59.1%	3,132	9.0%
2010	39,362	22,990	58.4%	3,860	9.8%
Change 1980-2010	13,813	7,744	56.1%	1,768	12.8%
Percent Change 1980-2010	54.1%	50.8%		84.5%	

SOURCE: U.S. Department of Commerce, Bureau of the Census.

TABLE 4

Projected Growth in Female and Black Population Age 65 and Over
SREB States, 1980-2010 (in thousands)

	Total Population 65 and Over	Female 65 and Over	Percent Female	Black 65 and Over	Percent Black
1980	8,351	4,986	59.7%	1,153	13.8%
1990	10,783	6,364	59.0%	1,373	12.7%
2000	12,634	7,414	58.7%	1,577	12.5%
2010	14,952	8,760	58.0%	1,925	12.9%
Change 1980-2010	6,601	3,684	55.8%	772	11.7%
Percent Change 1980-2010	79.0%	73.9%		67.0%	

SOURCE: U.S. Department of Commerce, Bureau of the Census.

percent of all Southerners in this age group (Table 4). Nevertheless, blacks will still represent a larger portion of the 65 and over population in the SREB region than in the United States in 2010--13 percent versus 10 percent.

Projections of the growth in numbers of Americans of Hispanic origin are not readily available, in part because of difficulties in estimating the current population. It can be assumed, however, that high levels of immigration to the United States, combined with higher fertility rates than those prevailing for the population as a whole, will add up to significant overall increases in this population.

In 1980, those age 65 or over made up just under five percent of Americans of Hispanic origin, a substantially lower share than the 11 percent of all Americans age 65 or over. By 1988, that figure was estimated to have grown only slightly, to just over five percent. This low rate of growth in the percentage of Hispanics 65 or over is deceiving, however. The Hispanic population is considerably younger than the overall population. In 1980, the median age of Hispanics was 23.3; by 1988, this had risen to 25.8. These figures compare to a median age of 30 for the United States population as a whole in 1980, and 33 in 1990 (Table 5). The number of older Hispanics had to increase by 300,000 between 1980 and 1988 to maintain the age group's five percent share. That represents a growth rate of 42 percent, about twice the rate for the total 65 and over population. The number of Hispanics aged 85 or over grew by 70 percent in the same period.

Within the SREB region, the Hispanic population is concentrated in two states. In 1985, Texas had an estimated 3.7 million Hispanics, almost 23 percent of the state population. Florida's Hispanic population was estimated at 1.1 million in 1985, almost 10 percent of the population. Together, Florida and Texas accounted for more than 90 percent of the region's Hispanic population and 27 percent of the nation's. No other SREB state had more than 100,000 Hispanics in 1985. This population can be expected to continue growing at a faster rate than the general population in all states, however, and any efforts to serve the aging population should take this fact into consideration.

The SREB States

There are other significant differences between states in the region. The proportion of Florida's population that is age 65 or over--projected at 19 percent in 1990--is far higher than either the United States or the SREB region as a whole. (Population projections for individual SREB states appear in Appendix A.) With 15 percent of the region's total population and a median age of 37.4, Florida has nearly 23 percent of the SREB states' 65 and over population. By 2010, 21 percent of Floridians will be 65 or over; 16 percent of those will be 85 or over. After Florida, the SREB state with the next largest percentage of older persons is Arkansas, with 15 percent of its population age 65 or over in 1990. The SREB states with the lowest percentages of residents 65 or over are Texas and Georgia, both with approximately 10 percent.

Variations in the percentage of the population age 65 or over may have some impact on resource allocation within individual states, but all states will feel the impact of an aging population. Though only 10 percent of Texans are age 65 or over in 1990, that figure represents a total of almost 2 million older adults, more than any SREB state except Florida, with 2.5 million. By 2010, Texas will still have the smallest proportion of older residents in the region. But with a median age of 36.2, up from 28 in 1980, it will have 2.6 million people aged 65 or over. By that time Florida will have more than 3.7 million older adults.

The absolute numbers for large states like Florida and Texas are impressive, but the impact of an older population will be as great, if not greater, in some smaller states. Even states projected to have little or no overall population growth will have increasing numbers of older citizens. West Virginia's population is projected to *decrease* by 17 percent between 1980 and

2010, but its 65 and over population will *increase* by 6 percent, and its 85 and over population by 126 percent. Similarly, Kentucky will grow by only 1 percent, but its 65 and over and 85 and over populations will climb by 32 and 134 percent, respectively.

In general, the individual SREB states will follow the same pattern as the region, with slight declines between 1980 and 2010 in the percentage of those 65 and over who are female or black. The exceptions are West Virginia, which will see a small increase in the share of older females; Florida and Oklahoma, which will see slight increases in the percentages of blacks 65 or over; and Maryland, which will see a dramatic increase in the share of older blacks.

TABLE 5

Median Age of the Population of SREB States
1980 and Projections to 2010

State	1980	1990	2000	2010
SREB States	29.7	32.9	36.6	39.5
United States	30.0	33.0	36.5	39.0
Alabama	29.2	32.5	36.4	39.2
Arkansas	30.6	33.7	37.9	41.3
Florida	34.7	37.4	41.2	45.3
Georgia	28.6	31.4	34.6	37.2
Kentucky	29.1	32.7	36.8	39.7
Louisiana	27.3	30.7	34.3	36.5
Maryland	30.3	33.2	36.4	39.1
Mississippi	27.6	30.7	34.6	37.4
North Carolina	29.6	33.0	37.0	39.9
Oklahoma	30.1	33.1	36.9	39.1
South Carolina	28.0	31.7	35.6	38.6
Tennessee	30.1	33.5	37.7	40.8
Texas	28.0	30.9	34.0	36.2
Virginia	29.8	32.9	36.3	39.1
West Virginia	30.3	34.2	38.6	41.7

SOURCE: U.S. Department of Commerce, Bureau of the Census.

IMPACT ON HEALTH AND HUMAN SERVICES

The most significant factors contributing to the aging of America have been unprecedented improvements in health care and life-style since the end of World War II. Thanks to developments such as antibiotics, immunization against disease, and improved nutrition, more

people are reaching age 65 than ever before in history. Once they get there, advances in diagnosis and treatment of disease mean that they also are surviving to more advanced ages.

Between 1950 and 1987, age-adjusted death rates from heart disease and stroke, two of the foremost killers of older adults, declined by 45 percent and 66 percent, respectively. Paralleling those gains was an increase in life expectancy at birth from 68.2 years to 75 years. For males, life expectancy in 1950 was 65.6 years; by 1987, that had risen by almost six years to 71.5. For women, the extension of life expectancy was even greater, from 71.1 in 1950 to 78.4 in 1987. A woman reaching age 65 in 1987 could expect to live to be almost 84; a man could expect to reach almost 80.

One of the sad ironies in the growth of the population 65 and over is that, as a society, we have persisted in stereotyping this increasingly diverse and active group. Too many of us assume that to be old is to be unhealthy. It is a stereotype that older adults themselves do not share. A majority of those 65 or over consistently identify themselves as being in good health. In the 1988 *National Health Interview Survey*, more than 70 percent of those age 65 or over said they were in good or excellent health, as did two-thirds of those 75 or over. Less than one in four in each of these age groups said that they had a chronic health condition that limited major activity.

Utilization of Services

The nation's older adults are healthier than ever before. Nevertheless, the 65 and over population does use a disproportionately large share of health resources. Inherent in the physiology of aging is an increased incidence of health problems. Scientific progress has been able to delay the aging process remarkably, but it cannot stop it. As the incidence of health problems increases, so too does the likelihood that more than one problem will be present at the same time. That means that the complexity of treatment and the cost also increase.

The types of problems that contribute to the increased health care needs of older adults are extremely varied. Certain types of diseases, including Alzheimer's and Parkinson's diseases, and many forms of cancer, occur with far greater frequency in later years. Others, such as senile cataracts of the eye and enlargement of the prostate gland, occur almost exclusively in older persons. Progressive diseases, such as arthritis and emphysema, often have their onset before age 65, but become particularly disabling with the passage of time. Despite the improvements in rates of heart disease and stroke in the past 40 years, cardiovascular problems are still the leading cause of death and disability among those 65 and over.

It is important to recognize that the problems of older adults are not limited to conditions with obvious physical symptoms. As they deal with major changes in their lives, such as loss of friends and family, mental health problems tend to increase, including depression, alcoholism, drug abuse, and suicide. Problems involving life-style and social support--human services problems that too often are not acknowledged by the health care system--have even more serious implications for the health of older adults than for younger populations. Poor diet, lack of exercise, and loss of mobility often lead to more immediate health problems, and health problems beget further social and psychological problems, in a vicious cycle that can lead to diminished quality of life and, ultimately, death.

In 1988, Americans 65 or over had an annual average of 8.7 physician contacts per person, compared to 5.3 contacts for the general population. For those 75 or over, the figure rises to 9.2 visits per year. Similarly, the 65 and over population had almost three times as many short-stay hospital discharges per 1,000 as the general population in 1988, used more than three times as many days of care per person, and had an average hospital stay of eight days, compared to 6.7 days for all ages. The 12 percent of the United States population that was 65 or over during the 1980s used approximately one-third of the nation's health care resources.

Diversification of Services

The relatively high proportion of persons 65 or over in the SREB states is an important source of the growth that has brought increased prosperity and vigor to the region. Older adults are not, on the whole, an unproductive population. However, this growth also brings with it new and expanded demands for health and human services.

The primary goal of any system of services for older adults should be to help the individual maintain as much functional independence as possible. The kinds of services needed to achieve this goal are as varied as the types of health and social problems the elderly experience.

When most Americans think about services for the elderly, if they think of them at all, it is probably the *nursing home* that comes most readily to mind. Yet, the majority of those who reach age 65 will *never* be residents of a nursing home. Even among those who are admitted to nursing homes, more than half will remain there for only a relatively short time, less than six months. (These short-stay residents include those who enter nursing homes for short-term rehabilitation and those who enter with a short life expectancy.) In 1985, only 4.6 percent of Americans age 65 or over were residents of nursing homes or personal care residences. As age increases, so does the likelihood of being in such a facility. Those 85 or over make up less than 2 percent of the overall population, but 40 percent of all nursing home residents. Still, fewer than one in four of those 85 or over is in a nursing home or personal care residence. More than 10 percent of the residents of such facilities are *under* 65.

Nursing home residents are generally in poorer health in 1990 than they were in 1980. This is largely because of the way the federal government reimburses acute care hospitals for services provided under the *Medicare* system. Changes in the Medicare reimbursement structure in the early 1980s encouraged hospitals to limit admissions to only the sickest patients and to discharge patients earlier than they might have previously. Many of these early discharge patients leave the hospital to go to nursing homes, often on a short-term basis, because they have not recovered sufficiently to return to their homes.

One result of this Medicare phenomenon has been an increased emphasis on services provided in settings other than hospitals and nursing homes. The total number of nursing home beds in the United States has increased by only about two percent annually, while the number of short-stay hospital beds has actually declined. With hospitals discharging sicker patients to nursing homes and the 65 and over population increasing at a faster rate than nursing home beds, it is inevitable that many older people who once would have been in nursing homes must now be served elsewhere. This can be seen as a positive development from the standpoint of preserving the independence of older adults. It will not be positive, however, unless we can ensure that needed services are actually available in noninstitutional settings.

More than 60 percent of those age 65 or over report that they have no chronic conditions that limit their activities in any way. Most members of this independent segment of the 65 and over population will continue to receive services in settings that serve the general adult population. For this group, our principal concern should be ensuring that health services provided in mainstream settings are responsive to the unique problems of aging adults.

Where health problems make complete independence impossible, *home health care* is often a viable alternative. Home care can enable the frail older person with limited mobility to remain in his or her own home or in the home of a family member much longer than might otherwise be possible. The home health sector of the health care industry increased at a rate of 20 percent per year in the 1980s. Non-health services also play an important role in helping older adults to remain independent. Programs such as "meals on wheels," for example, help to insure

that the so-called "frail elderly" have a balanced diet, which ultimately means fewer and less serious health problems.

Most of the frail elderly receive the bulk of their personal care from nonprofessional caregivers, such as spouses or other family members. Support services for families are thus an important part of any comprehensive effort to address the needs of older adults. Home health care is one type of service that can be a crucial factor in making it possible for the caregiver to keep the frail older person in a home environment. *Respite care* is another. Respite care allows the individual who is caring for an older person to get away from those responsibilities periodically. In some cases this may involve a substitute caregiver coming into the home. In others it may mean transporting the frail older person to another setting, much as is common with young children in "mother's day out" programs.

At a time when women are participating in the work force at unprecedented levels, adult daycare, or *eldercare*, is another important support service. Many employers have reported that their employees are as interested in eldercare as they are in daycare for children. In some situations it has even proven possible to combine child daycare and eldercare in the same general setting.

For those older adults who are unable to remain at home, there are intermediate options other than going to a nursing home. *Assisted independent living* programs are sheltered housing communities that offer some degree of privacy and independence while providing security and support services appropriate to the individual's functional level. It has been estimated that as many as 15 percent of those aged 65 or over who do not require institutionalization would benefit from some type of sheltered housing. Unfortunately, the amount of affordable sheltered housing available does not approach the level of need.

Financing of Services

The principal obstacle for most of those 65 or over in obtaining needed services is a financial one. Many older Americans live on fixed incomes, while the costs of both health services and housing have been rising steadily in recent years. The Medicare system provides coverage for basic physician and hospital services, but there are significant gaps in this coverage. Medicare does not pay for long-term nursing home care, for example. Although the state/federal Medicaid program will pay for long-term care, this coverage is usually limited to those whose personal incomes and financial resources are quite low. Private insurance to cover the gaps in these public programs is available, but very costly.

Because of this patchwork system of health insurance for the elderly, those age 65 or over spend a high proportion of their limited incomes on health services. Many do not seek services when they need them because of the cost. Thus, many health problems of older adults that could be handled easily if addressed in a timely fashion are not treated until they have reached an advanced stage where complex and costly services are required. This results in higher costs to the system, whether absorbed by Medicare, Medicaid, or the providers of the services. It also results in diminished quality of life for those 65 or over.

Special Populations

Among older adults, as among society in general, there are certain population groups that require special attention. Concern has grown in recent years about the inadequacies of health services in *rural* areas. These problems have an especially great impact on the elderly. Physical isolation, loss of mobility, and inadequate transportation, which are common problems for older adults in all areas, become even more critical in rural areas. Widespread shortages of physicians and other types of services in rural areas make it particularly difficult to address these problems.

The problems experienced by the aging population in general may be exaggerated for members of *racial and ethnic minorities*. This is especially true in terms of access to both health services and housing. Many SREB states have large populations that face the fourfold jeopardy of being rural, minority, poor, *and* elderly. In attempting to design programs to serve the aging population, it is essential to identify minority groups in the areas to be served. Some of these may be concentrated in relatively localized areas. Others may be more evenly distributed through the population as a whole. Regardless of the minority involved, or their distribution in the community, many minority populations will require some type of special attention if services are to accomplish desired results. Different cultures have different views on aging. Programs that do not take these differences into account will not be as effective as they might be.

It is important to be flexible in defining and identifying minorities. The term "Hispanic," for example, is often used as a global reference to all persons who can trace their ancestry to a Spanish-speaking country in the Western hemisphere. In fact, this is an extremely diverse group that reflects a number of distinct cultures. It is also a population that varies greatly in terms of integration into American society, ranging from those whose families have been United States citizens for many generations to newly arrived immigrants. The rapidly growing population of persons of Asian origin in the United States represents even greater cultural diversity. In designing health and human services programs, "minority" might best be seen as defining a relationship to the larger society, rather than as a label that automatically attaches to skin pigmentation or language.

The problems of the *physically or emotionally disabled* are also exaggerated in later years. Far more of those with disabilities occurring at birth or relatively early in life are now surviving to age 65 and beyond, and many who once would have spent their lives in custodial institutions instead have led productive lives in the community. Many of these disabled must now face the loss of caregivers on whom they have depended, often parents or spouses. Maintaining the disabled elderly in the community may require highly specialized services. The alternative is institutional care that will be both less satisfactory and more costly.

Dealing effectively with the problems resulting from increased life expectancy and a mushrooming elderly population will require changes in society's attitudes toward aging and the priorities of public financing for health care. Ultimately, however, health and human services are labor intensive. People provide care, and people who understand the aging process will provide better, more satisfactory care to the older adults they serve. They will also provide care that is, in the long run, more cost effective for society as a whole.

HUMAN RESOURCES TO SERVE THE AGING

Most of the services used by older adults fall into one of two broad categories: 1) Those that serve a general population, and 2) Those that exclusively serve an aging population. The majority of those age 65 or over use services in the former category. Whether these general service providers are medical practices, hospitals, or social service agencies, they will all find themselves dealing with a growing elderly clientele in the coming years. Demographics will dictate that. It will be true whether or not they are prepared to meet the special needs of older adults.

In principle, this multi-generational model for providing health and human services is appropriate. The more older adults are able to remain integrated into society as a whole, the longer they are likely to remain independent. Unfortunately, most of the individuals who provide services in such multi-generational settings have received little or no education in the problems of aging.

Stereotype and Stigma

In American society, aging has been stereotyped and stigmatized. As a result, few students in health and human services fields elect to study subjects related to aging, and few practitioners voluntarily choose to work with the elderly. Physicians affiliated with a medical school in an SREB state were asked to identify the characteristics that made them dislike certain patients. Their responses consistently named three factors: 1) They dislike patients with *chronic or terminal illnesses*; 2) They dislike patients who are *dependent*; 3) They dislike patients who are *non-compliant* with their orders. Each of these characteristics is more typical of older patients than younger ones. In fact, caring for those 65 and over often can be more frustrating than caring for younger people. The increased complexity of older adults' health problems can mean that appropriate courses of action are less clearcut than may be the case with younger age groups.

With all this bias against aging, why then are some individuals, albeit too few, motivated to work with older adults? In a large number of cases, the choice of a career in aging can be traced to some personal experience. Often, persons working in aging have had a close relationship with an older person, possibly a grandparent or other family member, that made them want to work with other older adults. In other cases, the experience of observing an older person who was not well served by the existing system motivates a younger person to want to change things.

Unfortunately, personal motivations do not produce enough people who want to work in aging even to approach the growing need. Too often, it is the negative aspects of aging that make the most lasting impression. We all must age if we are to go on living, and since we view aging as a "negative" experience that we dread facing ourselves, the tendency is to deny the inevitable and to focus on youth. Many health and human services workers would like to force their older clients to act and feel younger or, if they cannot, to take their problems elsewhere.

Thus, we are faced with a paradoxical situation. We are a society with a steadily increasing number of older adults who are healthier and more active than the elderly have ever been before. Yet only a very small percentage of those who enter the helping professions have any interest in working with older adults because they perceive them as unhealthy and unproductive. Far too many of those working in health and human services fields would like to ignore completely the population most in need of their services.

The negative attitudes of many health and human services workers toward older adults will not halt the inevitable shift of resources into aging services. The burgeoning numbers of older Americans will assure that. The issues then become the quality of services and the competence of health care providers. Increasing numbers of providers at all educational levels will find themselves working with clients age 65 or over, whether they wish to or not. It is in the interest of both those workers and the older adults they will serve that we make every effort to change societal and individual attitudes toward aging. Whether or not we succeed in that difficult task, however, we *must* educate far more people to understand and deal with the problems of older adults than we are doing today. We need to ensure that those who serve the elderly are appropriately qualified to do so.

Gerontology and Geriatrics

Webster's Third New International Dictionary defines *gerontology* as "a scientific study of the phenomena of aging and the problems of the aged." *Geriatrics* is defined as "a branch of medicine that deals with the problems and diseases of old age and aging people." In practice, gerontology is commonly used to refer to all aspects of the study of aging, while geriatrics is usually used to identify clinical interventions to deal with particular health problems of older

adults. The line separating the two concepts is not always clear, and the terms are sometimes used almost interchangeably. Care should be exercised in making assumptions about what either term means in a particular usage. This report will attempt to be faithful to Webster's definitions.

Until the mid-1960s, educational programs in aging were virtually unknown. That began to change with the passage of the *Older Americans Act* in 1965. The act created the federal *Administration on Aging* (AoA). One of the AoA's first activities was to make grants to institutions of higher education to support development of programs in gerontology.

The first two academic gerontology programs in the United States, both developed with AoA support, were at public institutions in SREB states. These were master's level programs begun in 1967 at *North Texas State University* (now the University of North Texas) and at the *University of South Florida*. In all, the AoA provided funds to 185 institutions and 28 consortia between 1966 and 1984.

In 1974, only seven years after the first program was initiated, gerontology educators across the nation joined together to form the *Association for Gerontology in Higher Education* (AGHE). By 1987, an AGHE survey of all institutions of higher education in the United States identified more than 1,100 campuses offering gerontology instruction at some level.

How far we have come since the first AoA supported programs opened their doors can be seen in the listing of *Educational Programs in Gerontology in SREB States* (Appendix B). Most of the programs on this list were identified by AGHE through its 1987 survey and subsequent updates. A few programs were identified using other sources, including state higher education program directories. The list includes 134 institutions offering programs leading to 267 different degrees or other credentials. There may be additional programs in the region, which our sources did not identify.

The most cursory review of the program listing will reveal the enormous diversity of gerontology and geriatrics programs. The programs range from the postsecondary vocational level to the doctoral level, with the largest concentration of programs at the master's level. A number of programs are offered on a continuing education basis.

Gerontology is, by definition, an interdisciplinary field. Virtually every health care discipline and all of the social and behavioral sciences have something to offer on the subject of aging, as do education and home economics. The program list clearly reflects this diversity. It includes so many different program configurations that it would be virtually impossible to catalog all of them without creating a second list almost as long as the first. To be effective, any educational program in gerontology, even those that focus narrowly on clinical specialties, must acknowledge the multidisciplinary nature of the field.

Institutions in SREB states offer degrees in *sociology*, *social work*, and *psychology*, and even in fields such as *architecture*, *divinity*, and *recreation*. There are more than two dozen master's level programs preparing clinical specialists in *gerontological nursing*. Certificate programs offer those with degrees in virtually any field an opportunity to supplement their credentials with additional specialized training in *gerontology*. There are programs that award degrees specifically in gerontology at the associate, baccalaureate, master's, and doctoral levels. Many programs are identified as having a focus in a specific discipline other than gerontology, but an equal number are explicitly *multidisciplinary*. In Texas, 25 institutions, ranging from community colleges to academic health centers, offer a standardized *Texas Basic Certificate in Gerontology*, which provides a foundation of knowledge on aging for anyone interested in or involved in working with the elderly, regardless of previous educational level.

Geriatric Education Centers

The multidisciplinary nature of gerontology education is reflected in the presence on many campuses of gerontology or aging centers. These take a variety of different forms. Some function as departments, offering courses and awarding degrees. Others offer joint appointments to faculty in other departments. In almost every case, the centers serve as a focal point for the gerontology activities of the institution. Many are involved in coordinating direct services to older adults as well as running educational programs.

In 1983, the Department of Health and Human Services, through its Health Resources and Services Administration, began providing funds for development of *Geriatric Education Centers* (GECs). The stated goals of the GEC grant program are to:

a) Improve the training of health professionals in geriatrics;
b) Develop and disseminate curricula relating to treatment of health problems of the elderly;
c) Expand and strengthen instruction in methods of such treatment;
d) Support the training and retraining of faculty to provide such instruction;
e) Support continuing education of health and allied health professionals who provide such treatment;
f) Establish new affiliations with nursing homes, chronic and acute disease hospitals, ambulatory care centers, and senior centers to provide students with clinical training in geriatric medicine.

As of 1990, there were 12 federally funded Geriatric Education Centers in SREB states (Appendix C). The use of the term "geriatric" to identify the centers funded under this program might be viewed as reflecting a disproportionate emphasis on medical geriatrics at the expense of a broader gerontology focus. In practice, however, most of the GECs have been successful in balancing the multidisciplinary nature of gerontology against the very real need for more emphasis on geriatrics in medicine. The problems addressed by the six GEC program goals have implications for virtually every type of gerontology or geriatric program.

The Department of Veterans' Affairs also provides funding for *Geriatric Research, Education, and Clinical Centers* at selected VA medical centers. There are currently four such centers in SREB states, all affiliated with medical schools (Appendix D).

Most university gerontology centers, centers on aging, etc., are not supported by GEC or VA funds. Each of these centers represents a recognition by the host institution not only that gerontology is important but also that some type of interdisciplinary coordination is needed to address the problems of aging effectively. In some cases, the lack of federal funding may even allow such centers to pursue more varied goals and to respond more directly to local conditions. The *Georgia State University Gerontology Center*, for example, has been a leader in recognizing the importance of clergy and other pastoral counselors in dealing with the problems of the elderly. *The University of Maryland Center on Aging* has taken the coordination function beyond the individual campus to coordinate gerontology and geriatric activities for all campuses of the University of Maryland System.

In most institutions with a strong commitment to gerontology, the beginnings of that commitment can be traced to a single person or small group of individuals who took an aggressive interest in the field. Where the institution has an orientation toward a specific discipline, such as social work, psychology, or medicine, it can usually be traced to the discipline of that original advocate. As is often the case with pioneering leaders, the same commitment and force of personality that made their efforts successful in the first place also shape the direction of the institutions' gerontology programs. It is not unusual for a university that is active in gerontology

education to be closely identified with one particular individual and with that individual's primary areas of interest. This is a good developmental model, but, as the programs mature and their original leaders move on, a different type of leadership is emerging. These second generation leaders are more likely to fit the flexible, pragmatic model of the educational administrator than the charismatic model of their predecessors. It seems likely that the multidisciplinary aspects of gerontology may find their fullest expression under this new type of leadership.

GERONTOLOGY EDUCATION FOR THE FUTURE

Among those involved in gerontology education, there has been an ongoing debate over the appropriateness of offering degrees in gerontology as a discipline. Of the 267 programs in SREB states included on the listing in Appendix B, only 25, less than 10 percent, award *gerontology degrees*. Almost 44 percent--116 programs--award some type of *certificate in aging* to individuals who are either completing degree programs in more traditional disciplines or who are actively working in other disciplines. The remaining 46 percent of programs do not award any credential specifically in gerontology, but instead award degrees in other disciplines with minors, concentrations, specializations, or some other type of special emphasis in aging.

Concerns about programs offering gerontology degrees relate primarily to uncertainty about job opportunities for graduates. Job markets in more traditional fields, for example health administration, occupational therapy, or social work, are fairly narrow and well defined. When individuals in these fields add certificates or other credentials in gerontology to their professional degrees, they are enhancing their marketability by targeting a specific segment of the market in their primary field.

The potential market for an individual with a degree in gerontology is much broader, but it is also less well defined. At the present time, relatively few positions require a degree in gerontology. As a result, the holder of a gerontology degree may be competing for the same job with individuals who have more traditional credentials. The potential employer will sometimes find it easier (and safer) to hire someone who can fill a clearly defined role than one who may offer broader but less easily categorized skills.

From the standpoint of the educational system, those who favor offering degrees in gerontology believe that individuals with such degrees are needed to teach others about aging. On the other hand, those who are concerned about the marketability of such degrees worry that someone with a Ph.D. in gerontology would be at a disadvantage in competing with those holding doctorates in more traditional fields for a faculty appointment and later for tenure.

Studies of the employability of graduates of gerontology degree programs lend some credence to the argument that such degrees are difficult for the holder to market. At the same time, however, studies also suggest that the market is rather soft for individuals with other types of gerontology credentials, such as certificates or minors. In large measure, this softness of the gerontology job market can be attributed to the fact that many employers have had relatively little experience with employees who have any type of credential in aging.

Problems of employability may also be attributed to the evolutionary state of most gerontology curricula. As an emerging, inherently multidisciplinary field, little standardization of program content has occurred. Up to now, any such standardization would probably have been premature and inappropriate.

In the late 1980s, the Association for Gerontology in Higher Education (AGHE) began an elaborate effort to develop guidelines for programs in the field. In 1989, after reviewing gerontology programs throughout the United States, AGHE released *Standards and Guidelines for*

Gerontology Programs. This document includes general recommendations for development of gerontology programs, regardless of academic level or type of credential awarded. It also makes specific curriculum and policy recommendations for master's and undergraduate degree programs, graduate and undergraduate certificate programs, undergraduate continuing education certificate programs, and associate degree and certificate programs. While this document conceivably might form the basis for accreditation or some other type of program approval, AGHE has wisely recognized that any such step would be premature. *Standards and Guidelines* represents an attempt to help gerontology educators benefit from the experience of others who have built programs in the field. As such, it should be extremely valuable. It also should provide potential employers with a basis for beginning to understand what gerontology programs are all about.

The concern of many educators about the employment prospects for graduates of gerontology degree programs is difficult to fault. Educators in any field should be applauded for giving high priority to the ability of their graduates to earn a living. In gerontology, however, it appears that the debate over the relative merits of the specific degree versus the add-on certificate is rapidly becoming irrelevant. Enough programs of both types are already in operation so that the job market should rapidly become familiar with the different kinds of preparation each represents. In fact, this appears to be occurring already in many areas where gerontology education programs have been functioning for a number of years. A survey by the University of North Texas of graduates of its gerontology master's program over a period of 20 years found that 92 percent had found employment with some involvement in aging in their first position after graduation. In their current positions, more than 80 percent were still involved either full- or part-time in aging.

The Role of the Specialist

If the health and human services system is to respond effectively to the needs of the 65 and over population, many more individuals with specialized credentials in gerontology will be needed.

In *education*, those with specialized training will be needed to serve as faculty in professional schools, to provide continuing education programs to help professionals stay up to date on developments in aging, and to provide in-service education to staff of provider organizations. Academic gerontologists should be increasingly competitive for faculty positions and tenure. Some will find opportunities at the growing number of universities with departments of gerontology. Other universities with major commitments in the field will choose not to establish separate departments, but will find alternate mechanisms to accommodate the career needs of gerontology faculty. Still other gerontologists will find positions at institutions with no special interest in this area but which recognize a need to have some faculty expertise in aging. Some institutions will employ no gerontologists at all. This evolutionary pattern will be no different than that which has occurred for many other emerging disciplines.

Specialists will play vital roles as *researchers* in the field of aging. Our knowledge of the aging process is still relatively primitive when compared to many other areas of health and human development. A dramatic increase in research activity will be needed to continue to improve our understanding of the problems associated with aging and our ability to deal with those problems effectively.

Specialists also will be needed to provide *direct services* to older adults. Specialized training in gerontology will be important for both direct providers and administrators in organizations that focus on serving the elderly. This is already the case in the nursing home industry. Nursing home administrators must meet specified educational requirements and obtain licenses. Many patient care personnel in nursing homes also must have specialized training for a facility to receive Medicare reimbursement. Such requirements extend even to nonprofessional

personnel. Nursing assistants in Medicare nursing homes must have 75 clock hours of training in dealing with aging residents. In provider organizations that serve general populations, individuals with specialized training in gerontology will be equally important, first to deal with patients who have severe problems unique to aging, and secondly to provide support to nonspecialized personnel who deal with older patients.

Both degree and certificate holders in gerontology will be required to meet these needs. Graduates of gerontology degree programs will be invaluable as educators, administrators, and planners who are able to take a broad view of the multiple factors that contribute to quality of life for older adults. With the growing popularity of "managed care" programs of health services, generalists also may find a role in coordinating a wide range of health and human services to address the overall needs of individual clients. Certificate holders and others who obtain specialized training in aging while pursuing careers in other disciplines will become leaders both in providing services to the elderly and as gerontology faculty in educational programs in their own fields. They will serve as the interface between their disciplines and the multidisciplinary field of gerontology.

There undoubtedly will be strains on the system as health and human services job markets adjust to this emerging occupational configuration. Ultimately, however, the demographics of an aging society will force providers of services to adapt. Provider organizations will quickly come to see the advantage of employing individuals who are specially prepared to deal with the fastest growing segment of their client/patient populations. Major purchasers of services--corporations and other large employers--have always appreciated the value of employing specialists who understand the problems and needs of particular population groups. The career options of those who specialize in gerontology can only expand as the 65 and over population expands.

Specialists Versus Generalists in the Professions

At the same time that we recognize the need for expanded numbers of gerontology specialists, it is also important to recognize that a high percentage of services will continue to be provided by health and human services personnel who have *not* had any specialized training in gerontology. To quote a 1987 report to Congress by the National Institute on Aging, "Under any conditions, requirements for personnel specifically prepared to serve older people will greatly exceed the current supply." Thus, there is an equally pressing need for more comprehensive treatment of gerontology in the *general curricula* of all educational programs in health and human services fields.

Within specific health and human services disciplines, issues of specialization versus generalization play out along much the same lines as in gerontology degree and certificate programs. *Medicine* is a pivotal profession because physicians are often the primary decision makers in the provision of health care to older adults. Medical schools play central roles in each of the twelve Geriatric Education Centers and four VA geriatric centers in the region. Yet some physicians do not feel that the types of health problems associated with aging differ sufficiently from those of younger adults to justify separate attention. As a result, there has been resistance to including more geriatrics in the undergraduate medical curriculum and to developing specialized graduate training programs in medical geriatrics.

In 1987, the Accrediting Council on Graduate Medical Education approved geriatrics as a subspecialty. Training will be through two-year geriatrics residencies that will follow completion of a basic three-year residency in either family practice or internal medicine. The first geriatrics programs began operation in July 1989. In 1990-91, 74 geriatrics residency programs had been approved in the United States; 16 of these were in SREB states (Appendix E). Additional programs will undoubtedly be initiated in subsequent years.

While there is a clear need for the geriatric medical specialists these residency programs will produce, it is equally important to provide both didactic education and clinical training in geriatrics to the vast majority of medical students and residents who will not become geriatricians. Early, positive exposures to healthy older adults will help dispel students' negative stereotypes about the elderly. Both undergraduate medical students and residents in all nongeriatric specialties, with the possible exception of pediatrics, should have clinical experiences that go beyond simply treating illness and injury in older patients. They need experiences that will help them understand the implications of advanced age itself in terms of the physical, emotional, social, and economic factors that can complicate treatment and compromise satisfactory outcomes.

Ironically, the strong specialty orientation of medicine may mean that getting a geriatric specialty approved at the graduate level was an easier task than incorporating geriatrics in the undergraduate curriculum of all medical schools. While many medical schools have been diligent in attempting to address the special problems of aging, others have done relatively little in this regard. Reforms in medical education currently being debated, such as an increased emphasis on problem-oriented teaching, ultimately may offer valuable new opportunities for teaching geriatrics.

While the importance of physicians in meeting the health care needs of older adults is indisputable, many other health and human services disciplines also play critical roles in serving the 65 and over population. *Dentistry*, for example, is faced not only with a larger aging population than ever before but, thanks to significant advances in prevention of dental disease, one that also is far more likely to retain their natural teeth. Preserving the oral health of these older adults is important to maintaining overall health, and plays an especially critical role in good nutrition and a good self-image.

Dietitians and nutritionists can help older adults plan diets appropriate not only to their individual nutritional needs but also to their physical abilities to prepare meals. Nutrition, health, and aging are intimately related, and most Americans now recognize that a good diet has a direct bearing on the likelihood of reaching age 65 and being in good health when we get there. The need for good nutrition does not diminish with advancing age, but the body's nutritional needs do change. Many of those 65 or over need expert help to cope rationally with the barrage of often conflicting dietary information and misinformation that fills the popular media.

With older adults being served in an increasingly diverse range of settings, nursing home administration is rapidly evolving into the more broad-based field of *long-term care administration*. The multiplicity of services means that boundaries between particular categories of long-term care services, and between long-term care and other types of services, have become blurred. Long-term care administrators today must have far broader knowledge of all aspects of the health and human services system than once was the case. While the need for long-term care services is not restricted to those 65 or over, the elderly make up the largest group at risk of needing such services, and long-term care administrators need to have a special understanding of the problems unique to this age group.

Pharmacy is an especially important profession in serving older adults. Drug reactions and interactions and failure to take medications as instructed result in serious health problems for many older patients. Pharmacists who are alert to potential problems are often in a better position to identify and correct them than prescribing physicians, who may have a less complete picture of the older adult's overall use of prescription and over-the-counter medications. The role of the pharmacist in monitoring medications can be particularly important in rural areas, where access to a physician may be limited.

Registered nurses often represent the front line of contact between older adults and the health care system. Nurses play vital roles in health promotion and maintenance, as well as in

providing care to those with specific health problems. They deal with older adults in every possible setting, from institutions, such as hospitals and nursing homes, to nontraditional settings, such as senior activity centers and private homes. Even in clinics and physicians' offices, nurses often spend more time than physicians interacting with patients. They are responsible for many important health monitoring functions and are often in a unique position to view specific problems in the context of the older adult's overall physical and emotional well-being. They also play critical roles in patient education, answering questions and interpreting physicians' orders to patients and patients' families.

Social workers play a number of important roles in providing services to older adults. Social workers are involved in a wide range of direct practice and administrative functions in many different types of health care and social service settings. They are often in the best position to know what services are available in the community and to aid older adults and their families in dealing with the impact of diminished capacities and changes in the physical and social environment.

The disciplines discussed here represent only a highly selective sample of the many health and human services fields that play roles in serving older adults. Therapists of all types are critical to meeting the needs of the elderly, as are optometrists, podiatrists, psychologists, and others. At a recent conference on aging, one presentation dealt with a *music therapy* program for advanced Alzheimer's disease patients. No music therapy programs appear on the listing in Appendix B, because none of the several programs in the region are targeted specifically at an aging population. However, the effectiveness of music therapy in improving the quality of life of one group of aging adults highlights the importance of gerontology education as a fundamental part of the curriculum for all helping professions.

In varying degrees, the issues in medical education are repeated in most other health and human services fields. Significant progress has been made in the past decade in expanding the number of specialized gerontology and geriatrics programs in many fields. One out of every six programs listed in Appendix B, for example, is a master's degree program in gerontological nursing or a specialized gerontological social work program. Unfortunately, recruitment into such programs remains difficult, primarily because of the stereotyping of aging previously discussed.

Progress in incorporating gerontology in general professional programs has been less rapid than the development of specialty programs. A major obstacle to expanding coverage in gerontology is the fact that most professional curricula are already long and arduous, and it is difficult to find room for additional material. Unfortunately, an added difficulty may be that some faculty members share the same biases against aging as their students.

Efforts to deal with these types of problems are expanding steadily. Many professional associations in health and human services fields have taken steps to assist their constituents in dealing effectively with gerontology education. The National Association of Social Workers established a *Council on Social Work Services to the Aging* as early as 1974, and efforts to improve and expand the treatment of gerontology in social work education multiplied during the 1980s. Today, most social work programs at both the bachelor's and master's levels include some required coursework in aging.

Since the majority of dentists are general practitioners, inclusion of geriatrics in the undergraduate dental curriculum is essential. The American Association of Dental Schools first published *Curriculum Guidelines for Geriatric Dentistry* in 1982, and revised them in 1989. The American Occupational Therapy Association, American Physical Therapy Association, and American Psychological Association all recently have been involved in efforts to develop model gerontology curricula for professional programs in their respective fields.

The Association of University Programs in Health Administration responded to the expansion of long-term care services by developing recommendations for integrating long-term care administration programs into general health administration programs. Such a development would be advantageous to both types of programs, and would help to facilitate communications and cooperation between long-term care services and other sectors of the health care system. It is to be hoped that it also would improve the understanding of issues related to aging on the part of all health administrators.

A recent survey of 42 baccalaureate nursing programs located in SREB states found that a large majority addressed gerontological nursing in their curricula. However, the survey also found that few of the faculty involved had any formal training in gerontology. A federally funded project administered by SREB and implemented by the Southern Council on Collegiate Education for Nursing has recently begun trying to address this problem. The project is providing nursing faculty throughout the region with opportunities to improve their skills and knowledge in the field of gerontological nursing. In the project's first six months, interest by nursing school faculty members far exceeded anticipated program capacity.

Activities of this type not only should be encouraged but expected of organizations, including institutions of higher education, that are involved in educating health and human services professionals. It is essential that gerontology be accepted as an integral component of educational programs in all health and human services fields. Accomplishing that end would have a dramatic impact on the quality of services to older adults. Not only would it improve the ability of providers of general services to respond to the special problems of the elderly, it would also help to eliminate the bias that discourages many students from pursuing specializations in gerontology. In addition, since services would be provided in a more appropriate and timely fashion, it should also be a major step toward controlling unnecessary costs to both individuals and society.

Educational Settings

In the majority of health professions, the predominant settings for clinical education traditionally have been the acute care hospital and the ambulatory care clinic. Effective educational programs in gerontology will require a more diverse range of educational settings reflecting the range of locations in which older adults receive services. To the teaching hospital, it will be necessary to add the teaching nursing home, the teaching home health service, and a steadily expanding array of other nontraditional and community-based settings.

The development of effective teaching relationships between educators and alternative service settings will not be simple. Educational programs can offer many benefits to provider organizations, but these benefits often are not immediately evident. Overworked nursing home staffs, for example, are likely to perceive educational programs, with their accompanying faculty and students, only as something that will make their lives more difficult. Similarly, faculty whose experience has been primarily in acute care facilities may find it difficult to relate to the unique problems faced by those in other types of settings. Staff members of teaching facilities are invaluable educational resources that can be utilized only if they are appreciated.

Overcoming such difficulties will require persistence, creativity, and flexibility on the part of educators. It may also require a willingness on the part of the educational institutions involved to absorb some initial increased financial costs. In the long run, however, efforts to expand and diversify the range of settings in which students learn to deal with older adults should produce significant cost savings for society as a whole. By providing more appropriate and effective care, the graduates of such programs ultimately will help to control unnecessary use of more costly services. In addition, graduates with student experience in alternative care settings may be more likely to work in those settings as practitioners, rather than in the most expensive setting of all, the acute care hospital, in which most clinical education occurs today.

Continuing Education

This discussion has focused largely on changes that need to be made if the professionals who graduate from health and human services programs in the future are to be adequately prepared to serve an aging population. For many years to come, however, most of those who provide services to older adults will be graduates from the past. Unfortunately, most of those past graduates have had little or no formal education in the area of aging. For the near future, therefore, there is an urgent need to provide ways for practicing professionals to improve their knowledge and understanding of gerontology and geriatrics.

For professionals in every discipline, *continuing education* should be a basic fact of life. In some cases, state licensure laws mandate continuing education for certain professionals. In all states and all professions, however, the importance of continuing education as a way for individual practitioners to expand and improve their knowledge is indisputable. Continuing education is ideal for upgrading the ability of health and human services professionals to deal with the problems of an aging population.

Unfortunately, negative stereotypes about aging mean that practicing professionals are no more likely to be attracted to this subject than students in entry-level programs. Therefore, it is imperative that incentives be provided to increase participation. One possible approach would be for states to subsidize continuing education programs in gerontology and geriatrics. Continuing education is costly to professionals in terms of both time and money. Most continuing education programs have no direct state support. By making gerontology continuing education available at reduced cost, it should be possible to attract professionals who otherwise might not show any interest in aging.

Similarly, subsidies could be used to make continuing education in aging more convenient for professionals. Since most continuing education must be self-supporting, it is necessary to have enough students in a particular course to cover the costs involved. Filling courses often requires drawing from wide geographic areas, meaning increased travel time and expense for participants. The state of Texas has provided subsidies to two of its nursing schools to offer continuing education in nursing in rural areas. At a time when shortages of nursing personnel make it impossible for many nurses in rural areas to get release time for travel to courses, these subsidies have helped to improve both the quality of nursing care and the retention of nurses in isolated areas. Similar subsidies targeted specifically at gerontology continuing education might be equally effective.

Area Health Education Centers operating in many states have proven extremely effective in providing educational services to health professionals in rural areas. Similarly, *agricultural extension services* offer well established and widely accepted educational networks that might provide gerontology continuing education. *Telecommunications* can also expand options in continuing education. Since 1985, the Virginia Commonwealth University Geriatric Education Center has offered 15 different teleconferences that have reached more than 12,000 professionals in the United States and Canada, many of them in rural areas.

It should be noted, too, that convenience is not exclusively a rural issue. In large urban areas, travel over relatively short distances can be difficult and time-consuming. Participation in continuing education can be greatly increased by offering courses in convenient and safe locations. The bottom line is that aggressive measures are needed to encourage professionals in all health and human services fields to become educated about aging and health, wherever they may be practicing.

As the proportion of the population age 65 and over increases, many service organizations that previously dealt with relatively small numbers of older clients will undergo major changes.

It can be expected that more and more jobs in health and human services will involve services to older adults. *Retraining and in-service education* will be crucial to ensure that both professional and nonprofessional staff in provider organizations are prepared to deal with this older population appropriately. In some cases, personnel may need retraining to move from jobs in sectors that do not serve large numbers of older clients to those that do. In other settings, in-service education is needed to upgrade the competencies of staff in dealing with older clients. The federally mandated training of nursing assistants in nursing homes involves both retraining *and* in-service education. States are still trying to cope with the complexities of bringing the required education to a widely varying and dispersed target population.

The need for gerontology education to respond to the graying of America is a multifaceted problem that demands complex and creative solutions. The impact of the burgeoning 65 and over population will reach virtually every sector of the health and human services system. To respond effectively to this dramatic population shift, gerontology education must also reach every level and every field whose members provide services to older adults.

RECOMMENDATIONS FOR STATES

- **The curriculum of every educational program that prepares health and human services professionals to serve adults should include both coursework and clinical experience in dealing with the problems of aging. While such content is important at all levels, it is especially critical that gerontology be included in all entry-level curricula.**

Courses in gerontology and/or geriatrics should be requirements, not electives. Initial experiences with issues of aging should come early in the professional curriculum and should emphasize the normality of the aging process and provide contact with generally healthy and productive older persons.

Clinical experiences in dealing with older adults should include a variety of different service settings, including those that primarily serve an older population and those that serve the elderly as part of a general population. Attention also should be given to the growing number and type of alternative, noninstitutional settings for providing services to older adults. State support may be required to develop sufficient numbers of clinical teaching settings. Such support might include funding to help defray the costs of education in such settings and coordination among the different state agencies responsible for regulation of educational institutions and health care providers.

In settings serving general populations, clinical faculty should take every opportunity to help students explore the differences between younger and older adults and to observe aging as a natural process, not a condition. Too often, such opportunities either go unrecognized or are ignored by clinical faculty.

Any school or program preparing professionals to provide health or human services to populations that include older adults should be expected to address the need for gerontology education. Any school or program that does not do so can be regarded as failing to respond to a very significant issue that directly affects the public interest.

- **Programs awarding degrees and other specialized credentials in gerontology and geriatrics should be encouraged and supported at all levels. Gerontology is a rapidly evolving field, and it can be expected that new, high quality programs will need to be developed and that existing programs may need to change as knowledge and understanding in this field change.**

Programs awarding *degrees* in the field of gerontology to individuals having no credential in another related discipline are especially appropriate at the master's and doctoral levels. At all levels, degree programs in gerontology should identify realistic career opportunities for graduates and/or require previous work experience in the field of aging. Identification of employment opportunities is particularly important for programs at the baccalaureate level or below.

Programs are needed that offer *advanced* training in aging and award gerontology credentials to individuals holding professional degrees in other health and human services disciplines. Such programs should emphasize the multidisciplinary nature of gerontology rather than focusing narrowly on parochial concerns of the particular field.

The Association for Gerontology in Higher Education's *Standards and Guidelines for Gerontology Programs* should be regarded as a valuable resource for educators attempting to develop gerontology programs and by education officials evaluating proposals for such programs. The *Standards and Guidelines* should not be regarded as hard and fast rules, but rather as a yardstick for measuring program structure and content against previous experience in the field. Gerontology education is fluid and rapidly evolving. Creativity should be encouraged and rewarded where it can be justified by experience and/or results.

- **States should provide support and incentives for faculty members and practicing professionals in all health and human services fields to obtain supplementary education in gerontology and/or geriatrics. There is a particular need for affordable and accessible continuing education programs in gerontology and geriatrics for health professionals who are active in patient care.**

Selected faculty members with an interest in teaching and conducting research in gerontology or geriatrics should be provided with paid sabbatical leave specifically for the purpose of pursuing additional education in this field. The federally funded *Geriatric Education Centers* have faculty development as one of their primary goals. States should support this type of activity at all gerontology centers, regardless of source of funding, and should encourage faculty development in geriatrics on all campuses where it may be appropriate.

Subsidized continuing education programs in gerontology and geriatrics should be provided for practicing health and human services professionals at all levels and in all disciplines. In fields where practitioners can be expected to provide services to older adults as a matter of course, and where aging has not traditionally been a part of the curriculum, states might consider requiring a minimum amount of gerontology continuing education as a condition for continued licensure. Any such requirement should not be imposed arbitrarily, but should be appropriate to the existing framework for regulation of a particular profession in the individual state.

Existing technical assistance and educational outreach programs, such as agricultural extension services and Area Health Education Centers (AHECs), should be considered as potential vehicles for the delivery of convenient and affordable gerontology continuing education.

Attention also should be given to the retraining and in-service education needs of nonprofessional staff in facilities and agencies primarily serving an older population. Effective programs of this type can be costly and logistically difficult, and guidance and support provided by the state may be appropriate.

- **Special efforts are needed to make services more responsive to the problems of older members of ethnic and racial minority groups. Efforts should be renewed to improve recruitment and retention of underrepresented minorities in health and human services fields. At the same time, educational programs need to provide students of all racial and ethnic backgrounds with an understanding of the role of cultural differences in health and aging.**

Underrepresentation of minorities in the health professions is a chronic problem that affects all aspects of the health care system, not only those related to aging. The problem has especially serious implications for the growing number of minority older adults, however. Cultural sensitivity is a key element of effective and appropriate services at all levels. For older adults, it is often a matter not simply of quality of life but of survival.

Increased numbers of minority professionals are essential to meet the needs of an aging, multicultural society. It is equally important, however, that all professionals have an understanding of the role that racial and ethnic differences may play in aging. Curriculum and course development activities in these areas are especially needed, and states may wish to consider providing incentives to institutions to undertake such programs.

- **States should encourage and provide financial support for organized research in areas related to gerontology and geriatrics, including research in the basic sciences, clinical health sciences, and social and behavioral sciences.**

Just as the knowledge leading to increased life expectancy came through research, much more research is still needed to improve our knowledge of how to prevent disability and maintain the independence and productivity of older adults. Achieving that goal is clearly in the best interest of society, both socially and economically.

The range of possible research subjects is extremely wide. Much basic scientific research is needed about the physiology of aging and its relationship to illness and injury.

Clinical research and epidemiological studies are needed to identify strategies for preventing disease and disability in older adults, and to develop therapeutic techniques to minimize the impact of problems that occur.

Substantial research is needed to determine the education and competencies required of individuals who provide particular types of services. For example, we have only limited understanding of the kinds of competencies best suited to caring for Alzheimer's disease patients, providing support services to those with chronic physical disabilities, and dealing with drug abuse and other mental health problems in older adults.

Research needs in the field of aging are so numerous and varied that any effort to recommend specific topics needing study would be counterproductive. Any research project that proposes to address the types of issues raised in this report can be regarded as addressing a real need. Individual research proposals must be judged, of course, on the merits of the research design and the qualifications of the individuals or institutions involved.

CONCLUSION

The surge in the growth of the 65 and over population of the United States will ultimately force a reluctant health and human services system to respond with effective programs of education and services. Economics is always a persuasive argument, and the aging "baby boom" generation will control both more votes and more dollars than any previous generation.

States can take an active role in encouraging more rapid progress by health and human services educators in addressing the problems of the growing elderly population. It is always better to be prepared for problems we can see coming than to wait for crisis conditions to force change.

The changes in health and human services that will occur because of the phenomenal bulge the baby boomers will cause in the 65 and over population must not be allowed to fade once the baby boomers are gone. The rate of increase in the elderly population may then decline, but the numbers will continue to grow.

Current demographic pressures on health and human services should be viewed not as a short-term crisis, but rather as an opportunity to change permanently the way we serve the elderly and view them as members of society. As always, education holds the keys to progress.

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Appendix A

PROJECTED CHANGES IN THE POPULATION AGE 65 AND OVER FOR SREB STATES 1980-2010

SOURCE: "Projections of the Population of States, By Age, Sex, and Race: 1988 to 2010," Current Population Reports, Population Estimates and Projections, Series P-25, No. 1017, U.S. Department of Commerce, Bureau of the Census.

ALABAMA - Projected Growth in Population
Age 65 and Over, 1980-2010 (in thousands)

Year	Total Population	65 and Over	Percent of Total Population	85 and Over	Percent of 65 and Over Population
1980	3,894	440	11.3%	34	7.7%
1990	4,181	527	12.6%	52	9.9%
2000	4,410	584	13.2%	76	13.0%
2010	4,609	661	14.3%	96	14.5%
Change 1980-2010	715	221	30.9%	62	28.1%
% Change 1980-2010	18.4%	50.2%		182.4%	

ALABAMA - Projected Growth in Female and Black Population
Age 65 and Over, 1980-2010 (in thousands)

Year	Total Population 65 and Over	Female 65 and Over	Percent Female	Black 65 and Over	Percent Black
1980	440	264	60.0%	106	24.1%
1990	527	319	60.5%	112	21.3%
2000	584	352	60.3%	116	19.9%
2010	661	393	59.5%	127	19.2%
Change 1980-2010	221	129	58.4%	21	9.5%
% Change 1980-2010	50.2%	48.9%		19.8%	

ARKANSAS - Projected Growth in Population
Age 65 and Over, 1980-2010 (in thousands)

Year	Total Population	65 and Over	Percent of Total Population	85 and Over	Percent of 65 and Over Population
1980	2,286	311	13.6%	26	8.4%
1990	2,427	361	14.9%	39	10.8%
2000	2,529	386	15.3%	55	14.2%
2010	2,624	435	16.6%	67	15.4%
Change 1980-2010	338	124	36.7%	41	33.1%
% Change 1980-2010	14.8%	39.9%		157.7%	

ARKANSAS - Projected Growth in Female and Black Population
Age 65 and Over, 1980-2010 (in thousands)

Year	Total Population 65 and Over	Female 65 and Over	Percent Female	Black 65 and Over	Percent Black
1980	311	181	58.2%	47	15.1%
1990	361	210	58.2%	45	12.5%
2000	386	225	58.3%	42	10.9%
2010	435	249	57.2%	43	9.9%
Change 1980-2010	124	68	54.8%	-4	--
% Change 1980-2010	39.9%	37.6%		-8.5%	

FLORIDA - Projected Growth in Population
Age 65 and Over, 1980-2010 (in thousands)

Year	Total Population	65 and Over	Percent of Total Population	85 and Over	Percent of 65 and Over Population
1980	9,746	1,687	17.3%	117	6.9%
1990	12,818	2,429	18.9%	220	9.1%
2000	15,415	3,069	19.9%	381	12.4%
2010	17,530	3,678	21.0%	569	15.5%
Change 1980-2010	7,784	1,991	25.6%	452	22.7%
% Change 1980-2010	79.9%	118.0%		386.3%	

GEORGIA - Projected Growth in Population
Age 65 and Over, 1980-2010 (in thousands)

Year	Total Population	65 and Over	Percent of Total Population	85 and Over	Percent of 65 and Over Population
1980	5,463	517	9.5%	39	7.5%
1990	6,663	677	10.2%	64	9.5%
2000	7,957	828	10.4%	101	12.2%
2010	9,045	1,052	11.6%	142	13.5%
Change 1980-2010	3,582	535	14.9%	103	19.3%
% Change 1980-2010	65.6%	103.5%		264.1%	

FLORIDA - Projected Growth in Female and Black Population
Age 65 and Over, 1980-2010 (in thousands)

Year	Total Population 65 and Over	Female 65 and Over	Percent Female	Black 65 and Over	Percent Black
1980	1,687	959	56.8%	101	6.0%
1990	2,429	1,380	56.8%	129	5.3%
2000	3,069	1,735	56.5%	172	5.6%
2010	3,678	2,066	56.2%	239	6.5%
Change 1980-2010	1,991	1,107	55.6%	138	6.9%
% Change 1980-2010	118.0%	115.4%		136.6%	

GEORGIA - Projected Growth in Female and Black Population
Age 65 and Over, 1980-2010 (in thousands)

Year	Total Population 65 and Over	Female 65 and Over	Percent Female	Black 65 and Over	Percent Black
1980	517	319	61.7%	119	23.0%
1990	677	414	61.2%	139	20.5%
2000	828	501	60.5%	162	19.6%
2010	1,052	625	59.4%	209	19.9%
Change 1980-2010	535	306	57.2%	90	16.8%
% Change 1980-2010	103.5%	95.9%		75.6%	

KENTUCKY - Projected Growth in Population
Age 65 and Over, 1980-2010 (in thousands)

Year	Total Population	65 and Over	Percent of Total Population	85 and Over	Percent of 65 and Over Population
1980	3,661	410	11.2%	35	8.5%
1990	3,745	470	12.6%	49	10.4%
2000	3,733	494	13.2%	67	13.6%
2010	3,710	540	14.6%	82	15.2%
Change 1980-2010	49	130	265.3%	47	36.2%
% Change 1980-2010	1.3%	31.7%		134.3%	

KENTUCKY - Projected Growth in Female and Black Population
Age 65 and Over, 1980-2010 (in thousands)

Year	Total Population 65 and Over	Female 65 and Over	Percent Female	Black 65 and Over	Percent Black
1980	410	242	59.0%	26	6.3%
1990	470	280	59.6%	28	6.0%
2000	494	291	58.9%	30	6.1%
2010	540	313	58.0%	32	5.9%
Change 1980-2010	130	71	54.6%	6	4.6%
% Change 1980-2010	31.7%	29.3%		23.1%	

LOUISIANA - Projected Growth in Population
Age 65 and Over, 1980-2010 (in thousands)

Year	Total Population	65 and Over	Percent of Total Population	85 and Over	Percent of 65 and Over Population
1980	4,206	405	9.6%	31	7.7%
1990	4,513	480	10.6%	47	9.8%
2000	4,516	518	11.5%	64	12.4%
2010	4,545	577	12.7%	81	14.0%
Change 1980-2010	339	172	50.7%	50	29.1%
% Change 1980-2010	8.1%	42.5%		161.3%	

LOUISIANA - Projected Growth in Female and Black Population
Age 65 and Over, 1980-2010 (in thousands)

Year	Total Population 65 and Over	Female 65 and Over	Percent Female	Black 65 and Over	Percent Black
1980	405	241	59.5%	108	26.7%
1990	480	286	59.6%	118	24.6%
2000	518	307	59.3%	128	24.7%
2010	577	338	58.6%	149	25.8%
Change 1980-2010	172	97	56.4%	41	23.8%
% Change 1980-2010	42.5%	40.2%		38.0%	

MARYLAND - Projected Growth in Population
Age 65 and Over, 1980-2010 (in thousands)

Year	Total Population	65 and Over	Percent of Total Population	85 and Over	Percent of 65 and Over Population
1980	4,217	396	9.4%	33	8.3%
1990	4,729	527	11.1%	51	9.7%
2000	5,274	608	11.5%	74	12.2%
2010	5,688	715	12.6%	105	14.7%
Change 1980-2010	1,471	319	21.7%	72	22.6%
% Change 1980-2010	34.9%	80.6%		218.2%	

MARYLAND - Projected Growth in Female and Black Population
Age 65 and Over, 1980-2010 (in thousands)

Year	Total Population 65 and Over	Female 65 and Over	Percent Female	Black 65 and Over	Percent Black
1980	396	240	60.6%	58	14.6%
1990	527	314	59.6%	83	15.7%
2000	608	363	59.7%	112	18.4%
2010	715	421	58.9%	156	21.8%
Change 1980-2010	319	181	56.7%	98	30.7%
% Change 1980-2010	80.6%	75.4%		169.0%	

MISSISSIPPI - Projected Growth in Population
Age 65 and Over, 1980-2010 (in thousands)

Year	Total Population	65 and Over	Percent of Total Population	85 and Over	Percent of 65 and Over Population
1980	2,521	290	11.5%	24	8.3%
1990	2,699	331	12.3%	35	10.6%
2000	2,877	361	12.5%	51	14.1%
2010	3,028	414	13.7%	63	15.2%
Change 1980-2010	507	124	24.5%	39	31.5%
% Change 1980-2010	20.1%	42.8%		162.5%	

MISSISSIPPI - Projected Growth in Female and Black Population
Age 65 and Over, 1980-2010 (in thousands)

Year	Total Population 65 and Over	Female 65 and Over	Percent Female	Black 65 and Over	Percent Black
1980	290	172	59.3%	95	32.8%
1990	331	197	59.5%	94	28.4%
2000	361	215	59.6%	94	26.0%
2010	414	241	58.2%	104	25.1%
Change 1980-2010	124	69	55.6%	9	7.3%
% Change 1980-2010	42.8%	40.1%		9.5%	

NORTH CAROLINA - Projected Growth in Population
Age 65 and Over, 1980-2010 (in thousands)

Year	Total Population	65 and Over	Percent of Total Population	85 and Over	Percent of 65 and Over Population
1980	5,882	603	10.3%	45	7.5%
1990	6,690	821	12.3%	76	9.3%
2000	7,483	991	13.2%	121	12.2%
2010	8,154	1,187	14.6%	174	14.7%
Change 1980-2010	2,272	584	25.7%	129	22.1%
% Change 1980-2010	38.6%	96.8%		286.7%	

NORTH CAROLINA - Projected Growth in Female and Black Population
Age 65 and Over, 1980-2010 (in thousands)

Year	Total Population 65 and Over	Female 65 and Over	Percent Female	Black 65 and Over	Percent Black
1980	603	368	61.0%	114	18.9%
1990	821	496	60.4%	143	17.4%
2000	991	596	60.1%	164	16.5%
2010	1,187	708	59.6%	194	16.3%
Change 1980-2010	584	340	58.2%	80	13.7%
% Change 1980-2010	96.8%	92.4%		70.2%	

OKLAHOMA - Projected Growth in Population
Age 65 and Over, 1980-2010 (in thousands)

Year	Total Population	65 and Over	Percent of Total Population	85 and Over	Percent of 65 and Over Population
1980	3,025	377	12.5%	34	9.0%
1990	3,285	426	13.0%	48	11.3%
2000	3,376	449	13.3%	63	14.0%
2010	3,511	504	14.4%	76	15.1%
Change 1980-2010	486	127	26.1%	42	33.1%
% Change 1980-2010	16.1%	25.2%		123.5%	

OKLAHOMA - Projected Growth in Female and Black Population
Age 65 and Over, 1980-2010 (in thousands)

Year	Total Population 65 and Over	Female 65 and Over	Percent Female	Black 65 and Over	Percent Black
1980	377	225	59.7%	20	5.3%
1990	426	254	59.6%	21	4.9%
2000	449	265	59.0%	23	5.1%
2010	504	293	58.1%	27	5.4%
Change 1980-2010	127	68	53.5%	7	5.5%
% Change 1980-2010	25.2%	30.2%		35.0%	

SOUTH CAROLINA - Projected Growth in Population
Age 65 and Over, 1980-2010 (in thousands)

Year	Total Population	65 and Over	Percent of Total Population	85 and Over	Percent of 65 and Over Population
1980	3,122	286	9.2%	20	7.0%
1990	3,549	397	11.2%	34	8.6%
2000	3,906	466	11.9%	55	11.8%
2010	4,205	560	13.3%	79	14.1%
Change 1980-2010	1,083	274	25.3%	59	21.5%
% Change 1980-2010	34.7%	95.8%		295.0%	

SOUTH CAROLINA - Projected Growth in Female and Black Population
Age 65 and Over, 1980-2010 (in thousands)

Year	Total Population 65 and Over	Female 65 and Over	Percent Female	Black 65 and Over	Percent Black
1980	286	177	61.9%	77	26.9%
1990	397	237	59.7%	95	23.9%
2000	466	277	59.4%	106	22.7%
2010	560	329	58.8%	127	22.7%
Change 1980-2010	274	152	55.5%	50	18.2%
% Change 1980-2010	95.8%	85.9%		64.9%	

TENNESSEE - Projected Growth in Population
Age 65 and Over, 1980-2010 (in thousands)

Year	Total Population	65 and Over	Percent of Total Population	85 and Over	Percent of 65 and Over Population
1980	4,591	517	11.3%	41	7.9%
1990	4,972	635	12.8%	65	10.2%
2000	5,266	710	13.5%	94	13.2%
2010	5,500	820	14.9%	121	14.8%
Change 1980-2010	909	303	33.3%	80	26.4%
% Change 1980-2010	19.8%	58.6%		195.1%	

TENNESSEE - Projected Growth in Female and Black Population
Age 65 and Over, 1980-2010 (in thousands)

Year	Total Population 65 and Over	Female 65 and Over	Percent Female	Black 65 and Over	Percent Black
1980	517	309	59.8%	72	13.9%
1990	635	381	60.0%	79	12.4%
2000	710	425	59.9%	86	12.1%
2010	820	486	59.3%	99	12.1%
Change 1980-2010	303	177	58.4%	27	8.9%
% Change 1980-2010	58.6%	57.3%		37.5%	

TEXAS - Projected Growth in Population
Age 65 and Over, 1980-2010 (in thousands)

Year	Total Population	65 and Over	Percent of Total Population	85 and Over	Percent of 65 and Over Population
1980	14,229	1,371	9.6%	112	8.2%
1990	17,712	1,758	9.9%	177	10.1%
2000	20,211	2,125	10.5%	263	12.4%
2010	22,261	2,613	11.7%	360	13.8%
Change 1980-2010	8,032	1,242	15.5%	248	20.0%
% Change 1980-2010	56.4%	90.6%		221.4%	

VIRGINIA - Projected Growth in Population
Age 65 and Over, 1980-2010 (in thousands)

Year	Total Population	65 and Over	Percent of Total Population	85 and Over	Percent of 65 and Over Population
1980	5,347	504	9.4%	41	8.1%
1990	6,157	677	11.0%	65	9.6%
2000	6,877	790	11.5%	96	12.2%
2010	7,410	945	12.8%	136	14.4%
Change 1980-2010	2,063	441	21.4%	95	21.5%
% Change 1980-2010	38.6%	87.5%		231.7%	

TEXAS - Projected Growth in Female and Black Population
Age 65 and Over, 1980-2010 (in thousands)

Year	Total Population 65 and Over	Female 65 and Over	Percent Female	Black 65 and Over	Percent Black
1980	1,371	812	59.2%	143	10.4%
1990	1,758	1,032	58.7%	165	9.4%
2000	2,125	1,238	58.3%	199	9.4%
2010	2,613	1,503	57.5%	250	9.6%
Change 1980-2010	1,242	691	55.6%	107	8.6%
% Change 1980-2010	90.6%	85.1%		74.8%	

VIRGINIA - Projected Growth in Female and Black Population
Age 65 and Over, 1980-2010 (in thousands)

Year	Total Population 65 and Over	Female 65 and Over	Percent Female	Black 65 and Over	Percent Black
1980	504	307	60.9%	87	17.3%
1990	677	404	59.7%	113	16.7%
2000	790	471	59.6%	135	17.1%
2010	945	554	58.6%	162	17.1%
Change 1980-2010	441	247	56.0%	75	17.0%
% Change 1980-2010	87.5%	80.5%		86.2%	

WEST VIRGINIA - Projected Growth in Population
Age 65 and Over, 1980-2010 (in thousands)

Year	Total Population	65 and Over	Percent of Total Population	85 and Over	Percent of 65 and Over Population
1980	1,950	237	12.2%	19	8.0%
1990	1,856	267	14.4%	28	10.0%
2000	1,722	255	14.8%	37	15.0%
2010	1,617	251	15.5%	43	17.0%
Change 1980-2010	-333	14	--	24	--
% Change 1980-2010	-17.1%	5.9%		126.3%	

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WEST VIRGINIA - Projected Growth in Female and Black Population
Age 65 and Over, 1980-2010 (in thousands)

Year	Total Population 65 and Over	Female 65 and Over	Percent Female	Black 65 and Over	Percent Black
1980	237	140	59.1%	10	4.2%
1990	267	160	59.9%	9	3.4%
2000	255	153	60.0%	8	3.1%
2010	251	151	60.2%	7	2.8%
Change 1980-2010	14	11	78.6%	-3	--
% Change 1980-2010	5.9%	7.9%		-30.0%	

Appendix B

EDUCATIONAL PROGRAMS IN GERONTOLOGY OFFERED BY INSTITUTIONS OF HIGHER EDUCATION IN SREB STATES

STATE	INSTITUTION	CITY	PUB/ IND*	DEGREE** AWARDED	DEGREE DISCIPLINE	PROGRAM FOCUS OR MAJOR FIELD
ALABAMA						
	Alabama A&M U	Huntsville	P	MS/EDS	Clinical Psychology	Medical Geriatrics
	Auburn U	Auburn U	P	Cert(U)	Certificate in Aging	Multidisciplinary
	Auburn U	Auburn U	P	BS	Family/Child Development	Option in Adult/Aging
	Jacksonville State U	Jacksonville	P	Cert(U)	Gerontology Certificate	Sociology BS/BA
	Jacksonville State U	Jacksonville	P	BS/BA	Sociology	Minor in Gerontology
	Oakwood Col	Huntsville	I	B	Any behavioral science	Minor in Gerontology
	Oakwood Col	Huntsville	I	B	Social Work	Minor in Gerontology
	U of Alabama	Birmingham	P	Cert(U)	Minor in Gerontology	Multidisciplinary
	U of Alabama	Birmingham	P	Cert(G)	Graduate Cert in Gerontology	Multidisciplinary
	U of Alabama	Birmingham	P	MSN	Nursing	Gerontological Nurse Specialst
	U of Alabama	University	P	BA	Social Work	Emphasis in Aging
	U of Alabama	University	P	MSW	Social Work	Specist in Servics to the Aged
	U of Alabama	University	P	Cert(G)	Specialist in Gerontology	Community Health
	U of South Alabama	Mobile	P	Cert(G)	Graduate Cert in Gerontology	Multidisciplinary
ARKANSAS						
	U of Arkansas	Little Rock	P	BA	Sociology	Gerontology Emphasis
	U of Arkansas	Little Rock	P	MNS	Nursing	Gerontological Nurse Specialst
	U of Arkansas	Little Rock	P	MNS	Nursing	Geriatric Mental Health Nursng
	U of Arkansas	Little Rock	P	Cert(G)	Certificate in Gerontology	Gerontology
	U of Arkansas	Little Rock	P	MA	Gerontology Studies	Gerontology
	U of Arkansas	Pine Bluff	P	BA	Gerontology	Social Sciences
FLORIDA						
	Bethune-Cookman Col	Daytona Beach	I	B	Multidisciplinary	Minor in Gerontology
	Bethune-Cookman Col	Daytona Beach	I	Cert(A)	Professnal Cert in Gerontology	Multidisciplinary
	Bethune-Cookman Col	Daytona Beach	I	Cert(U)	Professnal Cert in Gerontology	Multidisciplinary
	Bethune-Cookman Col	Daytona Beach	I	Cert(G)	Professnal Cert in Gerontology	Multidisciplinary
	Col of Boca Raton	Boca Raton	I	BHHSA	Health/Human Services Admin	Aging
	Col of Boca Raton	Boca Raton	I	Cert(G)	Specialist in Aging Certifcate	Health/Human Services Admin
	Col of Boca Raton	Boca Raton	I	MPS	Eldercare Administration	Health/Human Services Admin
	Florida A&M U	Tallahassee	P	Cert(U)	Certificate in Gerontology	Bachelor's in Social Welfare
	Florida International U	N Miami	P	Cert(U)	Cert in Gerontological Studies	Liberal Arts
	Florida International U	N Miami	P	Cert(G)	Graduate Cert in Gerontology	Public Affairs
	Florida International U	N Miami	P	MSW	Social Work	Services to the Elderly
	Florida International U	N Miami	P	PhD	Developmental Psychology	Adulthood and Aging
	Florida International U	N Miami	P	Cert(CE)	Professional Cert in Eldercare	Multidisciplinary
	Florida State U	Tallahassee	P	Cert(U)	Certificate in Gerontology	Multidisciplinary
	Florida State U	Tallahassee	P	Cert(G)	Certificate in Gerontology	Multidisciplinary
	Florida State U	Tallahassee	P	Cert(G)	Certificate in Gerontology	Social Work
	Palm Beach Atlantic Col	W Palm Beach	I	BA	Sociology/Psychology	Minor in Gerontology
	Saint Thomas U	Miami	I	B	Major in Gerontology	Social Sciences

STATE	INSTITUTION	CITY	PUB/ IND*	DEGREE** AWARDED	DEGREE DISCIPLINE	PROGRAM FOCUS OR MAJOR FIELD
FLORIDA (Continued)						
	U of Florida	Gainesville	P	Cert(G)	Graduate Cert in Gerontology	Multidisciplinary
	U of Florida	Gainesville	P	Cert(CE)	Professnal Cert in Gerontology	Any field
	U of Florida	Gainesville	P	MSN	Nursing	Gerontological Nurse Specialst
	U of Florida	Gainesville	P	MA/PhD	Counseling	Spec in Adult Developmnt/Aging
	U of Florida	Gainesville	P	Cert(P)	Cert of Training	Geriatric Medicine
	U of Florida	Gainesvill	P	Cert(P)	Post-Doctoral Certificate	Geriatric Dentistry
	U of Florida	Gainesvill	P	Cert(P)	VA Fellowship/Residency	Geriatric Pharmacy
	U of South Florida	Tampa	P	BS/BA	Gerontology	Multidisciplinary
	U of South Florida	Tampa	P	MA+Cert	Gerontology	Adminstrtn/Mntl Hlth Counselng
	U of South Florida	Tampa	P	MSN	Nursing	Gerontological Nurse Specialst
GEORGIA						
	Augusta Col	Augusta	P	BA	Sociology	Minor in Aging
	Emory U	Atlanta	P	MSN	Nursing	Gerontology Nursing
	Georgia Southern U	Statesboro	P	Cert(CE)	Specialist Certificate	Gerontological Nursing
	Georgia State U	Atlanta	P	Cert(U)	Certificate in Gerontology	Multidisciplinary
	Georgia State U	Atlanta	P	Cert(G)	Graduate Cert in Gerontology	Multidisciplinary
	Georgia State U	Atlanta	P	MSN	Nursing	Gerontology Nursing
	Georgia State U	Atlanta	P	Cert(CE)	Certificate in Gerontology	Any field
	Savannah State Col	Savannah	P	B	Social Work/Psychology	Minor in Gerontology
	Valdosta State Col	Valdosta	P	MS	Sociology	Concentration in Gerontology
	U of Georgia	Athens	P	Cert(G)	Certificate in Gerontology	Multidisciplinary
	U of Georgia	Athens	P	MSN	Nursing	Gerontological Nurse Specialst
KENTUCKY						
	Murray State U	Murray	P	BA	Social Science/Social Services	Minor in Social Gerontology
	U of Kentucky	Lexington	P	Cert(G)	Certificate in Gerontology	Multidisciplinary
	U of Kentucky	Lexington	P	MSW	Social Work	Spec Area of Focus in Gerntlgy
	U of Kentucky	Lexington	P	MSD	Dentistry	Concentration in Geriatrics
	U of Kentucky	Lexington	P	MSN	Nursing	Gerontology Nursing
	U of Kentucky	Lexington	P	Cert(P)	Fellowship in Geriatrics	Medicine
	U of Kentucky	Lexington	P	Cert(CE)	Training for Home Caregivers	Nursing
	U of Kentucky	Lexington	P	Cert(CE)	Summer Series on Aging	Any field
	U of Louisville	Louisville	P	MSN	Nursing	Gerontological Nursing
	Western Kentucky U	Bowling Green	P	B	Multidisciplinary	Minor in Gerontology
	Western Kentucky U	Bowling Green	P	MA/PhD	Education	Emphasis in Gerontology
LOUISIANA						
	New Orleans Baptist Semnry	New Orleans	I	MA	Christian Education	Specialization in Gerontology
	Northeast Louisiana U	Monroe	P	Cert(U)	Minor in Gerontology	Multidisciplinary
	Northeast Louisiana U	Monroe	P	Cert(G)	Post-Bachelrs Cert in Gerntlgy	Multidisciplinary
	Southern U	New Orleans	P	BA	Social Work	Concentration in Gerontology
	Southern U	New Orleans	P	MSW	Social Work	Concentration in Gerontology
	Tulane U	New Orleans	I	MSW+Cert	Social Work	Certificate in Gerontology
MARYLAND						
	Col of Notre Dame-Maryland	Baltimore	I	MA	Adulthood and Aging	Social Sciences
	Dundalk Com Col	Dundalk	P	Cert(A)	Paraprofessional Counseling	Gerontology
	Dundalk Com Col	Dundalk	P	AA	Gerontological Counseling	Counseling

STATE	INSTITUTION	CITY	PUB/ IND*	DEGREE** AWARDED	DEGREE DISCIPLINE	PROGRAM FOCUS OR MAJOR FIELD
MARYLAND (Continued)						
	Hood Col	Frederick	I	Cert(U)	Gerontology Concentration	Multidisciplinary
	Hood Col	Frederick	I	MA	Human Sciences-Psychology	Concentration in Gerontology
	Montgomery Col	Rockville	P	Cert(U)	Aging and Disability	Gerontology
	Morgan State U	Baltimore	P	Cert(U)	Urban Gerontology	Multidisciplinary
	Sojourner-Douglass Col	Baltimore	I	BA	Human/Social Resources	Concentration in Gerontology
	Towson State U	Towson	P	BA/BS	Sociology	Concentration in Gerontology
	U of Baltimore	Baltimore	I	Cert(U)	Concentration in Aging	Multidisciplinary
	U of Baltimore	Baltimore	I	Cert(G)	Graduate Concentratn in Aging	Multidisciplinary
	U of Baltimore	Baltimore	I	Cert(CE)	Certificate in Aging	Any field
	U of Maryland	Baltmore County	P	BA	Sociology	Concentration in Aging/Family
	U of Maryland	Baltmore County	P	MA	Applied Sociology	Concentration in Aging
	U of Maryland	Baltmore County	P	PhD	Policy Sciences	Aging Track
	U of Maryland	Baltimore	P	MSN	Nursing	Gerontological Nursing
	U of Maryland	College Park	P	B	Gerontology	Track in Long-Term Care Admin
	U of Maryland	College Park	P	B	Gerontology	Track in Senior Housing Mngmnt
	U of Maryland	College Park	P	B	Gerontology	Generalist track
	U of Maryland	College Park	P	Cert(G)	Concentr in Gerntlgcl Counslng	PhD in Counseling
	U of Maryland	College Park	P	Cert(G)	Gerontology Major	PhD in Human Development
	U of Maryland	College Park	P	MS/PhD	Recreation	Emphasis in Leisure and Aging
	U of Maryland	College Park	P	PhD	Psychology	Aging Subspecialty
	Villa Julie Col	Stevenson	P	AA	Human Services	Activity Specialist-Geriatrics
MISSISSIPPI						
	Mississippi State U	Miss Station	P	Cert(U)	Certificate in Gerontology	Multidisciplinary
	Mississippi State U	Miss Station	P	Cert(G)	Cert or Grad Minor in Gerntlgy	Any graduate program
	Mississippi U for Women	Columbus	P	MSN	Nursing	Gerontology Nursing
	Southern Mississippi U	Hattiesburg	P	B	Gerontology Minor	Multidisciplinary
	Southern Mississippi U	Hattiesburg	P	B	Physical Education	Gerontology Minor
	Southern Mississippi U	Hattiesburg	P	BS	Nursing	Minor in Gerontology
	Southern Mississippi U	Hattiesburg	P	MS	Nursing	Grad Minor in Gerontolgy
	Southern Mississippi U	Hattiesburg	P	M/D	Multidisciplinary	Grad Gerontology Minor
	Tougaloo Col	Tougaloo	I	Cert(U)	Certificate in Gerontology	Multidisciplinary
NORTH CAROLINA						
	Appalachian State U	Boone	P	BS	Sociology	Concentration in Gerontology
	Appalachian State U	Boone	P	B	Multidisciplinary	Minor in Gerontology
	East Carolina U	Greenville	P	B	Multidisciplinary	Minor in Gerontology
	High Point Col	High Point	I	BS	Major in Gerontology	Behavioral Sci/Human Services
	Mars Hill Col	Mars Hill	I	Cert(U)	Certificate in Gerontology	Social Sci/Behavioral Sci
	N Carolina State U	Raleigh	P	Cert(G)	Non-degree Cert in Gerontology	Education
	N Carolina State U	Raleigh	P	MS/MED	Education	Concentration in Gerontology
	N Carolina State U	Raleigh	P	EdD	Education	Concentration in Gerontology
	N Carolina State U	Raleigh	P	PhD	Applied Developmntl Psychology	Specialization in Aging
	Piedmont Tech Col	Roxboro	P	Dipl	Diploma in Geriatric Assisting	Health
	Shaw U	Raleigh	I	BA	Major in Gerontology	Behavioral Science
	U of North Carolina	Asheville	P	Cert(U)	Track in Gerontology with Cert	Sociology
	U of North Carolina	Chapel Hill	P	MSW	Social Work	Specialization in Aging
	U of North Carolina	Charlotte	P	B	Multidisciplinary	Minor in Gerontology
	U of North Carolina	Greensboro	P	BA	Multidisciplinary	Minor in Gerontology
	U of North Carolina	Greensboro	P	MSN	Nursing	Gerontological Nursing

STATE	INSTITUTION	CITY	PUB/ IND*	DEGREE** AWARDED	DEGREE DISCIPLINE	PROGRAM FOCUS OR MAJOR FIELD
OKLAHOMA						
	Carl Albert Jr Col	Poteau	P	Cert(CE)	Cert of Gerontological Studies	Any field
	Central State U	Edmond	P	MA/MED	Adult Education (Psychology)	Gerontology Emphasis
	E Central Oklahoma State U	Ada	P	BA	Human Services	Concentration in Aging Servics
	Langston U	Langston	P	BS	Gerontology	Gerontology
	Oklahoma City Com Col	Oklahoma City	P	A	Health	Gerontology
	Oklahoma City Com Col	Oklahoma City	P	Cert(A)	Certificate of Mastery	Gerontology
	Oklahoma City Com Col	Oklahoma City	P	Cert(A)	Cert of Applied Gerontology	Gerontology
	Oral Roberts U	Tulsa	P	MSN	Nursing	Gerontology Nursing
SOUTH CAROLINA						
	Allen U	Columbia	I	Cert(U)	Certificate in Gerontology	
	Clemson U	Clemson	P	MSN	Nursing	Nursing Care of Older Adults
	Lander Col	Greenwood	P	Cert(U)	Gerontology Concentratn & Cert	Sociology/Psychology/Lib Arts
	Medical U of S Carolina	Charleston	P	MSN	Nursing	Gerontology Nursing
	Orangeburg-Calhoun Tech Col	Orangeburg	P	Cert(A)	Geriatric Care Assistant Cert	Health
	U of S Carolina	Columbia	P	MSW	Social Work	Graduate Cert in Gerontology
	U of S Carolina	Columbia	P	Cert(G)	Cert of Grad Study in Gerntlgy	Social Work
	U of S Carolina	Columbia	P	Cert(CE)	Certificate in Gerontology	Social Work
	U of S Carolina	Columbia	P	MA/PhD	Psychology	Concentration in Aging
	Winthrop Col	Rock Hill	P	Cert(U)	Certificate in Gerontology	Multidisciplinary
	Winthrop Col	Rock Hill	P	B	Multidisciplinary	Minor in Gerontology
TENNESSEE						
	Fisk U	Nashville	I	MA	Multidisciplinary	Studies in Aging
	Lincoln Memorial U	Harrogate	I	Cert(U)	Gerontology Minor	Human Devel/Psychlgy/Health Ed
	Memphis State U	Memphis	P	BS	Recreation Planning/Managment	Activities for the Elderly
	Memphis State U	Memphis	P	MS	Counseling/Health Services	Geriatric Services
	Memphis State U	Memphis	P	Cert(U/G)	Certificate of Completion	Summer Inst in Geriatrc Servcs
	Middle Tennessee State U	Murfreesboro	P	Cert(U)	Gerontology Certificate	Long-Term Health Care Admnsrtn
	Middle Tennessee State U	Murfreesboro	P	Cert(G)	Gerontology Certificate	Social Work/Sociolgy/Psycholgy
	Tennessee State U	Nashville	P	BSW	Social Work	Social Gerontology
	Vanderbilt U	Nashville	I	MSN	Nursing	Gerontlgical Nurse Practitionr
TEXAS						
	Abilene Christian U	Abilene	I	Cert(U)	Cert of Study in Gerontology	Gerontology
	Abilene Christian U	Abilene	I	MS	Gerontology	Gerontology
	Abilene Christian U	Abilene	I	Cert(G)	Grad Cert of Study in Gerntlgy	Gerontology
	Austin Com Col	Austin	P	AAS	Long-Term Health Care Admnstrn	Long-Term Care Administration
	Austin Com Col	Austin	P	Cert(CE)	Texas Basic Cert in Gerontolgy	Anyone working in aging
	Baylor Col of Medicine	Houston	I	Cert(P)	Fellowship in Geriatrics	Medicine
	Baylor U	Waco	I	MS	Gerontology	Sociology
	Baylor U	Waco	I	MCG	Clinical Gerontology	Sociology
	Bee County Col	Beeville	P	Cert(CE)	Texas Basic Cert in Gerontolgy	Anyone working in aging
	Brookhaven Col	Dallas	P	Cert(CE)	Texas Basic Cert in Gerontolgy	Anyone working in aging
	Henderson County Jr Col	Athens	P	Cert(CE)	Texas Basic Cert in Gerontolgy	Anyone working in aging
	Houston Com Col	Houston	P	Cert(CE)	Texas Basic Cert in Gerontolgy	Anyone working in aging
	Incarnate Word Col	San Antonio	I	MA	Aging	
	Lamar U	Beaumont	P	Cert(CE)	Texas Basic Cert in Gerontolgy	Anyone working in aging
	McClennan Com Col	Waco	P	AAS	Long Term Health Care Admnstrn	Long-Term Care Administration
	McClennan Com Col	Waco	P	Cert(CE)	Texas Basic Cert in Gerontolgy	Anyone working in aging

STATE	INSTITUTION	CITY	PUB/ IND*	DEGREE** AWARDED	DEGREE DISCIPLINE	PROGRAM FOCUS OR MAJOR FIELD
TEXAS (Continued)						
	Midland Col	Midland	P	Cert(CE)	Texas Basic Cert in Gerontolgy	Anyone working in aging
	Northlake Col	Irving	P	Cert(CE)	Texas Basic Cert in Gerontolgy	Anyone working in aging
	Paris Jr Col	Paris	P	Cert(CE)	Texas Basic Cert in Gerontolgy	Anyone working in aging
	Paul Quinn Col	Waco	I	B	Sociology	Minor in Gerontology
	Paul Quinn Col	Waco	I	Cert(U)	Certificate in Gerontology	Sociology
	St Edward's U	Austin	I	Cert(U)	Certificate in Gerontology	Multidisciplinary
	St Edward's U	Austin	I	Cert(CE)	Texas Basic Cert in Gerontolgy	Anyone working in aging
	St Philip's Col	San Antonio	P	Cert(CE)	Texas Basic Cert in Gerontolgy	Anyone working in aging
	San Antonio Col	San Antonio	P	Cert(CE)	Texas Basic Cert in Gerontolgy	Anyone working in aging
	Stephen F Austin State U	Nacogdoches	P	BA	Gerontology	1st or 2nd Major
	Stephen F Austin State U	Nacogdoches	P	B	Any bachelor's program	Minor in Gerontology
	Stephen F Austin State U	Nacogdoches	P	Cert(CE)	Texas Basic Cert in Gerontolgy	Anyone working in aging
	SW Baptist Seminary	Fort Worth	I	MA	Divinity	Concentration in Gerontology
	SW Baptist Seminary	Fort Worth	I	PhD	Gerontology	Divinity
	SW Baptist Seminary	Fort Worth	I	PhD	Divinity	Minor in Gerontology
	Southwest Texas State U	San Marcos	P	BS	Long Term Health Care Admin	Health Administration
	Tarrant County Jr Col	Fort Worth	P	Cert(CE)	Texas Basic Cert in Gerontolgy	Anyone working in aging
	Temple Jr Col	Temple	P	Cert(CE)	Texas Basic Cert in Gerontolgy	Anyone working in aging
	Texarkana Com Col	Texarkana	P	Cert(CE)	Texas Basic Cert in Gerontolgy	Anyone working in aging
	Texas A&I U	Kingsville	P	Cert(CE)	Texas Basic Cert in Gerontolgy	Anyone working in aging
	Texas A&M U	College Station	P	MA/PhD	Health Education	Gerontology
	Texas A&M U	College Station	P	MA/PhD	Architecture	Health Facilities Design
	Texas A&M U	College Station	P	MD	Medicine	Preceptorship in Gerontology
	Texas Tech U	Lubbock	P	MS	Gerontology	Home Economics
	Texas Tech U	Lubbock	P	Cert(CE)	Texas Basic Cert in Gerontolgy	Anyone working in aging
	Texas Woman's U	Denton	P	MA/PhD	Human Development/Nutrition	Concntrtn in Adulthood & Aging
	Tyler Jr Col	Tyler	P	Cert(A)	Cert in Gerontology Studies	Multidisciplinary
	Tyler Jr Col	Tyler	P	Cert(CE)	Texas Basic Cert in Gerontolgy	Anyone working in aging
	U of North Texas	Denton	P	BS	Studies in Aging	Gerontology
	U of North Texas	Denton	P	MS/MPA	Studies in Aging	Gerontology
	U of North Texas	Denton	P	MS/MPA	Studies in Aging	Long-Trm Cr/Retirmnt Facil Adm
	U of North Texas	Denton	P	MS/MPA	Studies in Aging	Community Programs Admin
	U of North Texas	Denton	P	Cert(G)	Specialst Certificate in Aging	Gerontology
	U of North Texas	Denton	P	Cert(CE)	Texas Basic Cert in Gerontolgy	Anyone working in aging
	U of Texas	Austin	P	MSN	Nursing	Gerontological Nursing
	U of Texas Health Sci Cntr	Houston	P	MSN	Nursing	Gerontological Nrsng Specialst
	U of Texas Health Sci Cntr	Houston	P	DDS	Dentistry	Geriatric Dentistry Module
	U of Texas Health Sci Cntr	Houston	P	Cert(P)	Geriatric Psychiatry	Medicine
	U of Texas Health Sci Cntr	San Antonio	P	Cert(CE)	Geriatrics and Gerontology	Any Health Professional
	U of Texas Health Sci Cntr	San Antonio	P	Cert(CE)	Clinical Geriatrics	Medicine
	U of Texas Health Sci Cntr	San Antonio	P	Cert(P)	Biomedical Gerontology	PhD/MD (Biomedical Researcher)
	U of Texas Medical Branch	Galveston	P	BS	Health Administration	Long-Term Care Administration
	U of Texas Medical Branch	Galveston	P	MS	Allied Health	Clinical Gerontology
	U of Texas Medical Branch	Galveston	P	MSN	Nursing	Gerontologic Primary Care

STATE	INSTITUTION	CITY	PUB/ IND*	DEGREE** AWARDED	DEGREE DISCIPLINE	PROGRAM FOCUS OR MAJOR FIELD
TEXAS (Continued)						
	U of Texas SW Medical Cntr	Dallas	P	BS	Gerontology	Long-Term Care Administration
	U of Texas SW Medical Cntr	Dallas	P	BS	Gerontology	Long-Term Care Policy/Planning
	U of Texas SW Medical Cntr	Dallas	P	BS	Gerontology	Gerontology Counseling
	U of Texas SW Medical Cntr	Dallas	P	Cert(U)	Certificate in Gerontology	Long-Term Care Administration
	U of Texas SW Medical Cntr	Dallas	P	Cert(U)	Gerontology Guardianship Cert	Guardianship of older persons
	U of Texas SW Medical Cntr	Dallas	P	Cert(G)	Long-Term Care Administration	Gerontology
	U of Texas SW Medical Cntr	Dallas	P	Cert(CE)	Texas Basic Cert in Gerontolgy	Anyone working in aging
	Wayland Baptist U	Plainview	I	Cert(CE)	Texas Basic Cert in Gerontolgy	Anyone working in aging
	West Texas State U	Canyon	P	MSN	Nursing	Gerontological Nurse Specialst
	Wharton County Col	Wharton	P	Cert(CE)	Texas Basic Cert in Gerontolgy	Anyone working in aging
	Wiley Col	Marshall	I	BS	Social Science	Nursing Home Administration
	Wiley Col	Marshall	I	Cert(CE)	Texas Basic Cert in Gerontolgy	Anyone working in aging
VIRGINIA						
	Christopher Newport Col	Newport News	P	Cert(U)	Certificate in Gerontology	Multidisciplinary
	George Mason U	Fairfax	P	Cert(U)	Certificate in Gerontology	Multidisciplinary
	George Mason U	Fairfax	P	MA	Psychology	Gerontology Specialization
	George Mason U	Fairfax	P	Cert(G)	Gerontology	Nursing/Psychology
	Hampton U	Hampton	I	Cert(G)	Gerontolgcl Nurse Practitioner	Nursing
	Lynchburg Col	Lynchburg	I	Cert(U)	Specialist Cert in Gerontology	Multidisciplinary
	Lynchburg Col	Lynchburg	I	Cert(G)	Specialist Cert in Gerontology	Multidisciplinary
	Marymount U of Virginia	Arlington	I	MSN	Nursing	Gerontology Nursing
	Norfolk State U	Norfolk	P	BS	Corrective Therapy	Concentration in Geriatrics
	Norfolk State U	Norfolk	P	BA	Sociology	Gerontology Concentration
	Norfolk State U	Norfolk	P	MS	Gerontology	Sociology
	Norfolk State U	Norfolk	P	MSW	Social Work	Sequence in Gerontology
	Paul D Camp Com Col	Franklin	P	Cert(A)	Career Studies Certificate	Geriatric Nurse Aide
	Radford U	Radford	P	B	Multidisciplinary	Minor in Social Gerontology
	Radford U	Radford	P	MSN	Nursing	Home Hlth Care Concntrtn-Rural
	Southside Virginia Com Col	Alberta	P	AAS	Home Services	Emphasis in Aging
	Tidewater Com Col	Virginia Beach	P	AAS	Gerontology	Gerontology
	Tidewater Com Col	Virginia Beach	P	Cert(A)	Specialist in Aging	Gerontology
	Tidewater Com Col	Virginia Beach	P	Cert(A)	Career Studies Certificate	Geriatric Nursing Assistant
	U of Virginia	Charlottesville	P	MSN	Nursing	Gerontology Nursing
	Virginia Commonwealth U	Richmond	P	MS	Gerontology	Gerontology
	Virginia Commonwealth U	Richmond	P	MSN	Nursing	Gerontology Nursing
	Virginia Commonwealth U	Richmond	P	Cert(G)	Certificate in Aging Studies	Multidisciplinary
	Virginia Commonwealth U	Richmond	P	Cert(CE)	Geriatric Mini-Fellowship	Educators in any field
	Virginia Highlands Com Col	Abingdon	P	Cert(A)	Geriatric Nurses Aide	Home Health Care
	Virginia Polytechnic Inst	Blacksburg	P	Cert(G)	Graduate Cert in Gerontology	Multidisciplinary
	Virginia Polytechnic Inst	Blacksburg	P	MS/PhD	Family/Child Developmnt	Adult Development & Aging
WEST VIRGINIA						
	Marshall U	Huntington	P	BA	Sociology/Anthropology	Minor in Gerontology
	W Virginia U	Morgantown	P	Cert(U)	Gerontology Certificate	Multidisciplinary
	W Virginia U	Morgantown	P	Cert(G)	Graduate Cert in Gerontology	Multidisciplinary
	W Virginia U	Morgantown	P	MSW	Social Work	Aging Concentration
	W Virginia U	Morgantown	P	PhD	Psychology	Spec in Life-span Development
	W Virginia U	Morgantown	P	Cert(CE)	Practitioner Cert in Gerontlgy	Gerontology

* P = Public Institution; I = Independent Institution

** KEY TO DEGREES:

A = Associate Degree
AA = Associate of Arts
AAS = Associate of Applied Sciences
B = Baccalaureate Degree
BA = Bachelor of Arts
BHHSA = Bachelor of Health & Human Services
BS = Bachelor of Science
BSW = Bachelor of Social Work
Cert(A) = Associate Level Certificate
Cert(CE) = Continuing Education Certificate
Cert(G) = Post-baccalaureate or Graduate Level Certificate
Cert(P) = Professional Certificate
Cert(U) = Undergraduate or Baccalaureate Level Certificate
D = Doctoral Degree
DDS = Doctor of Dental Surgery
Dipl = Diploma
EDS = Educational Specialist
M = Masters Degree
MA = Master of Arts
MCG = Master of Clinical Gerontology
MD = Doctor of Medicine
MED = Master of Education
MNS = Master of Nursing Science
MPA = Master of Public Adminstration
MPS = Master of Public Service
MS = Master of Science
MSD = Master of Science in Dentistry
MSN = Master of Science in Nursing
MSW = Master of Social Work
PhD = Doctor of Philosophy

SOURCES: "National Directory of Educational Programs in Gerontology, 1987," and "National Database on Gerontology in Higher Education, 1990," Association for Gerontology in Higher Education; "Graduate Education in Nursing: Route to Opportunities in Contemporary Nursing, 1988-1989," National League for Nursing; state higher education agency program inventories.

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Appendix C

GERIATRIC EDUCATION CENTERS FUNDED BY THE U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES IN SREB STATES

University of Alabama at Birmingham Geriatric Education Center

Affiliated Institutions: Atlanta University
Meharry Medical College (Nashville)

University of Florida Geriatric Education Center (Gainesville)

University of South Florida Suncoast Geriatric Education Center (Tampa)

Miami Area Geriatric Education Center (**University of Miami**)

Affiliated Institutions: Florida A&M University

Ohio Valley Appalachia Regional Geriatric Education Center (**University of Kentucky**, Lexington)

Affiliated Institutions: East Tennessee State University (Johnson City)
University of Cincinnati
University of Louisville
West Virginia University (Morgantown)

Louisiana Geriatric Education Center (**Louisiana State University**, New Orleans)

Affiliated Institutions: Dillard University (New Orleans)
Southern University (New Orleans)
Xavier University (New Orleans)

Mississippi Geriatric Education Center (**University of Mississippi Medical Center**, Jackson)

Appalachian Geriatric Education Center (**Bowman Gray School of Medicine**, Winston-Salem, NC)

Affiliated Institutions: University of North Carolina at Greensboro
Winston-Salem State University

Duke University Geriatric Education Center (Durham, NC)

Oklahoma Geriatric Education Center (**University of Oklahoma Health Science Center**, Oklahoma City)

Affiliated Institutions:
- Langston University (Langston)
- Northeastern State University (Tahlequah)
- Oklahoma City Community College
- Oklahoma State University (Stillwater)

South Texas Geriatric Education Center (**University of Texas Health Science Center**, San Antonio)

Texas Consortium of Geriatric Education Centers

Affiliated Institutions:
- Baylor College of Medicine (Houston)
- Houston Academy of Medicine/Texas Medical Center Library
- Pan American University (Edinburg)
- Texas College of Osteopathic Medicine (Fort Worth)
- Texas Southern University (Houston)
- Texas Tech University Health Science Center (Amarillo, El Paso, Lubbock, Odessa)
- Trinity University (San Antonio)
- University of Houston
- University of North Texas (Denton)
- University of Texas Health Science Center (Houston)
- University of Texas Medical Branch (Galveston)

Virginia Commonwealth University Geriatric Education Center (Richmond)

Appendix D

GERIATRIC RESEARCH, EDUCATION, AND CLINICAL CENTERS IN SREB STATES FUNDED BY THE U.S. DEPARTMENT OF VETERAN'S AFFAIRS

VA Medical Center, Durham, North Carolina

Affiliated Institution: **Duke University**

VA Medical Center, Gainesville, Florida

Affiliated Institution: **University of Florida**

VA Medical Center, Little Rock, Arkansas

Affiliated Institution: **University of Arkansas for Medical Sciences**

VA Medical Center, San Antonio, Texas

Affiliated Institution: **University of Texas Health Science Center at San Antonio**

Appendix E

GRADUATE MEDICAL EDUCATION PROGRAMS IN GERIATRICS
IN SREB STATES

State	Medical School and Affiliated Hospitals	Program Location	Program Type
Alabama	**University of Alabama School of Medicine** (VA Medical Center, University of Alabama Hospital)	Birmingham	Internal Medicine
Arkansas	**University of Arkansas for Medical Sciences** (University Hospital)	Little Rock	Internal Medicine
Florida	**University of Florida College of Medicine** (VA Medical Center)	Gainesville	Internal Medicine
	University of Miami School of Medicine (Jackson Memorial Hospital, South Shore Hospital, VA Medical Center)	Miami	Internal Medicine
	University of South Florida College of Medicine (Tampa General Hospital, Haley VA Medical Center)	Tampa	Internal Medicine
Maryland	**Johns Hopkins University School of Medicine** (Johns Hopkins Hospital, Frances Scott Key Medical Center)	Baltimore	Internal Medicine
North Carolina	**Bowman Gray School of Medicine** (North Carolina Baptist Hospital)	Winston-Salem	Internal Medicine
	Duke University School of Medicine (Duke U Medical Center, VA Medical Center)	Durham	Internal Medicine
	East Carolina University School of Medicine (Pitt County Memorial Hospital)	Greenville	Family Practice
	University of North Carolina School of Medicine (UNC Hospitals)	Chapel Hill	Internal Medicine
Tennessee	**East Tennessee State University College of Medicine** (VA Medical Center)	Mountain Home	Internal Medicine
	University of Tennessee College of Medicine (Regional Medical Center, VA Medical Center)	Memphis	Internal Medicine

State	Medical School and Affiliated Hospitals	Program Location	Program Type
Texas	**Baylor College of Medicine** (VA Medical Center)	Houston	Internal Medicine
Virginia	**Medical College of Virginia** (McGuire VA Medical Center)	Richmond	Internal Medicine
	Medical College of Virginia (Riverside Hospital)	Newport	Family Practice
	University of Virginia School of Medicine (U of Virginia Hospitals)	Charlottesville	Internal Medicine

SOURCE: "1990-1991 Directory of Graduate Medical Education Programs Accredited by the Accreditation Council for Graduate Medical Education," American Medical Association, Chicago, 1990.